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THE

CHICAGO MEDICAL EXAMINER.

N. S. DAVIS, M.D., EDITOR.

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Original Contributions.

ARTICLE XXXIX.

INTRODUCTORY ADDRESS.

BY H. W. BOYD, M.D., Chicago.

LADIES AND GENTLEMEN:—I think I can read in your faces, as I see them before me, the story of a pleasant summer, whose brightness and bloom have given to you vigor and strength for the days which are before us. Many of you are called from far distant homes—some from the farm, and others from their merchandise; and we welcome you to this, the inauguration of the eleventh annual course of instruction in the Chicago Medical College. Since the last medical class passed from the guidance of the Faculty, important changes have been effected in connection with this institution; all of which are hoped to be but milestones of progress in her history. The Chicago Medical College has become the Medical Department of the North-Western University, a relation which it is believed will prove to the mutual advantage of all concerned; and having always entertained liberal views in regard to education, she has extended her liberality, so as to admit to her classes such females as may desire to pursue the study of medicine. This is an age of progress in almost every department of science or art. Philosophy is carrying her researches everywhere, mingling her lessons of wisdom with her lofty speculations. Science is continually unfolding

new glories, and adding new conquests to her long lists of triumphs, and at the same time is gradually, but surely, wending her way to the more perfect appreciation of the masses. And not only are the arts and sciences apparently advancing, but public education, societies for the promotion of knowledge, the spirit of invention and discovery, manufactures, and facilities for rapid communication and familiar intercourse, navigation, and all things useful and beautiful excite the attention of the world, and seem to prosper by the labors for their advancement. Large cities are built up in a day, and institutions of learning multiply rapidly. Only one hundred years ago, the first medical school was established in America; but to-day over forty are represented in our various cities, and a much greater ratio of increase can be ascribed to other schools and colleges. But a few years since, and the stage coach and the emigrant wagon were the principal means of transit from place to place; but to-day, long lines of railroads thread every state and county in the nation, uniting with their iron bands the Atlantic with the Pacific. But by the side of this progress there is a spirit of rash innovation, a seeming desire to blot out the past, the evident possession of wild, bewildering ideas, on almost every subject; a daring, restless inquisitiveness; a discontent; a disposition to hasten all events; to accomplish much in a very short time, and a reluctance to submit to that course of things which is favorable to calm meditation, and clear, steady thought. The evils of such a state of things are manifest in a thousand different forms, but nowhere more clearly than in the tendency to prevent thorough education. Our American people are too much of a money-loving people, they are too busy to think clearly and steadily, and investigate thoroughly and fully, and the result is, we have a paradise for quacks in education. Everything must be done in a day. Our schools and colleges, partaking of the spirit of our people, attempt to do too much in too short a space of time. An education cannot be procured in a month nor a year, but only by the slow process of *years* of labor. And to attain to *eminence* in any department of science or art, entails upon its votaries a degree of enthusiasm and de-

votion marked by self-denial and indomitable perseverance, and the end is obtained only in proportion as we have labored to obtain it. It is not only during your pupilage that you are expected to study. Those of you who have had preceptors, have just been receiving the initiatory instruction necessary to prepare you for the lectures, so that you can derive the best advantage from the knowledge communicated to you; and what you learn while you are here, in addition to that which you bring with you, will prepare your minds for the reception of more, and thus, as the bounds of your knowledge widen, as the field of your mental vision is extended, new beauties will appear on the distant horizon, and your desires will increase in proportion to your capacities for enjoyment, and the ends you have in view in seeking knowledge. And thus it must be through life. You should always be students, even after you have left the walls of this College, for then you have just begun to climb the hill of science, which is one of steep ascent. There is no railroad communication to its summit, by which passengers can be delivered at the other end of the track at so much a head; it cannot be reached by the aid of the steam car, and amid the confused rattle of machinery; neither can the lightning carry the rich products of those bright fields to the vale below upon magnetic wires; a tariff of prohibition hems its riches in, and it is only by the slow process of days and nights of toil and labor that the end can be obtained. There is but the one course, and no clipping off of corners or taking shorter roads. Every curve, corner, and stone of the pathway must be examined by him who would succeed. And although a process of toil, yet around the hopeful and persevering traveler to truth, thousands of joys are clustered. How his heart leaps at every step in the progress gained, and with what ecstacy he stands upon some jutting rock, which from below seemed an impassable barrier to his higher ascent, and at every resting place in his pilgrimage he discovers the sculptured monuments of those who have gone before him. Here are the trees and shrubs which they have planted, still blooming, and the rich fruits of their labors hang melting to his taste. All along up

the richest ores shine from the hillside; an emerald here and there lies embedded, and the pure diamond, liké the radiance of the evening star, sparkles upon the vision. Upon the very thorns which pierce his feet, roses bloom, and from every jutting rock, plants shoot out redolent with the perfumes of Eden. Enthusiastic and persevering industry bring an indispensible requisite to success. It may not prove an unprofitable waste of time, to inquire at the starting point of the road which opens so invitingly its broad entrance before us, how we can best employ the future, so as to derive the greatest amount of good.

The Faculty of this College have adopted a course of instruction for which they claim peculiar merits, and its continued and increased success depends largely upon the vim and energy with which you pursue it. You must consider the fact that you are now entering upon the study of the most *noble* and *responsible* of all professions—one that requires men of the strictest honor and integrity, for to physicians are confided the secrets of families, sacred trusts, that are committed to no others. The high and noble motive of doing good to others, of relieving human suffering, and prolonging human life, is the only incentive that ever has, or ever will make the great physician. And if he has no nobler and higher motive than the mere gain that can be made by it, he is unfit to be trusted with the lives of human beings. How easy it is for the physician to control the destiny of his patients. In him they trust, and confide in his knowledge and TRUTH. He decides for them questions of life and death. Happiness or misery, it is his power to give. Because by devoted study, he has learned the mysteries and marvels of this wondrous machine, the human body. He has learned the anatomy of every part and organ, and of the laws which govern and regulate them, and of the dire results which follow their neglect or abrogation. He has also become acquainted with the proper mode of assisting nature to carrying out these laws, so that health can be secured and disease banished. The greater his knowledge the greater his power.

To enable you to contribute, in the highest degree, to the advancement of such holy and philanthropic purposes, it will be

necessary that the profession, through whose instrumentality you are to effect so much, should receive your daily and unwearied attention. Now ask yourselves the question, shall you prepare yourselves thoroughly? or shall selfish fear and desire for personal ease prevail, and prevent you from undergoing the labor necessary to qualify yourselves, to assume this fearful responsibility? These are important questions, and upon the answers given them depends the future standing of every medical student in this house. Do not delay to decide whether you will take a noble and elevated rank in your profession, or merely follow it as a trade. Determine now, at the commencement of this term of instruction, and that you will devote all your energies, and all your time, by closest application, to obtain a most perfect and minute knowledge of the elementary branches of your profession, for upon the accuracy and minuteness of your knowledge of these branches—the alphabet of your profession—rests all the superstructure, upon which you are to secure the monument of your future fame. Have it a broad and deep foundation, so that however high your fame may get, it cannot be shaken from its firm foundation. If you are deficient in these elementary branches—the only enduring basis for a permanent reputation—you will never obtain a distinguished position. You must, therefore, see the necessity of the closest application, even at the commencement of your career, for now is the period when these branches are taught. An attempt to gain a knowledge of the beautiful orations, and other compositions of the classic writers, in their classic tongue, without a knowledge of these languages, will fail. So in regard to your profession, the alphabet of which is: Anatomy, Physiology, Chemistry, Materia Medica, and Pathology. And when all these have been learned thoroughly, then you have a good foundation to build up a solid and enduring professional character.

The first great object of education is to discipline the mind, or train the mental faculties so that you have complete command over them. Our earliest knowledge of the human mind is that revelation that the Almighty breathed into man the breath of

life, and man became a living soul. The mind is this breath of life, breathed from the lips of the great "*I* AM" into the body already prepared for its reception; and it is that breath of life breathed into no other creature but man, that constitutes him in the image of God. The object of training the mind should be, not only to fulfil her duties well here, but to enable it to stand on high vantage ground, when she leaves this, the cradle of her being. But very few students ever accomplish as much as they expect, or as much as they ought; and one great reason of this is that they fail to obtain this controlling power over the faculties of the mind, because they waste so large a portion of their valuable time. This is the universal experience of students. Every one can look back at his college days, and see the mistakes he made. If the mind has not been trained by previous collegiate or academic studies, you will find the necessity for the closest application all the more urgent in the study of medicine. The EDUCATION of the mind must be your own work. No one can do it but yourself. There is nothing in this world which has not labor and toil as its price. Those islands which so beautifully adorn the Pacific, were reared from the bed of the ocean by the little coral insect, which deposits but one grain of sand at a time, until the whole island is raised above the surface of the waters. Just so with human exertions, the greatest results of the mind are produced by small, but continued efforts.

The mind is endowed with certain faculties or powers, by which it acquires, retains, and digests knowledge; and whenever it has been as highly trained, or developed, as these faculties will permit, and in which it has its greatest power, precision, and readiness of action, then it may be said to be educated. A person may have a good memory, retentive to the minutest fact; he may be a keen observer of things passing around him, or an extensive and diligent reader, and, indeed, may have capacity to acquire and retain knowledge of a rare order; and if this be all, he may still be very far from being thoroughly educated. Many uneducated men are diligent readers, and have good memories, but the end of education is not simply to ac-

quire knowledge. The food we eat, we employ not as an end, but as a means; the end is that the body be strengthened and developed, which is not accomplished by simply eating the food, but only when it has been duly digested and assimilated. So it is with knowledge, which is to the mind what food is to the body. The exercise which the mind has—for instance, in the study of anatomy or chemistry—disciplines certain of its faculties, so that it is prepared for loftier flights, and to achieve new and higher victories. Learn to think on what you study, so that you can have a good judgment. A well-balanced mind is of most essential importance to the success of a physician. Then your minds cannot only investigate, but weigh and balance the opinions and theories of others. Without this you will never know what to distrust, or what opinions to receive. Some of the most laborious men have passed through life without accomplishing anything desirable, and all for a lack of a well-balanced judgment. The last theory with such a man is the true one, however deficient as to proof; the last book is the most wonderful, though it is in *fact* the most worthless; his last visionary speculation, the one bound to make him rich, though it will produce financial emaciation; hence there is a laborious trifling, which unfits the mind for anything valuable. It leads to a wide field, which is a barren waste.

The old maxim "*know thyself*," is worthy of the attention of the student; there is no knowledge to be compared to self-knowledge. The ancients deemed it worthy to be placed over the doors of their temples, so we imagine they thought highly of this kind of knowledge; and when we reflect that these people have left a deeper impress upon the world's history than any other since time began; an age which gave to poetry a *Homer*, to painting an Apelles, to sculpture a Phidias; which had in statesmanship a Pericles, in law a Solon, in oratory a Demosthenes, and in philosophy a Plato, we are more than ever impressed with the importance of "self-knowledge;" without it we are never rightly prepared to estimate our own powers; we may, as most do, suppose we possess some degree of mental power we do not possess, or, at least, that others will not accede

to us; or we may possess faculties of which we are not aware—the former is by far the most likely to be true, for men and women are each possessed with a full share of self-conceit. In your studies you should follow some system, a rule of action, or law. In nature, every effect implies a cause, and every phenomenon implies a law. The combination of the elements in the physical world about us occur in conformity with the laws of chemical union; the forms of the crystal kingdom are built up after the most rigid and beautiful laws; the forms of the plant and animal kingdom, in their development, growth, reproduction, and decay, observe appropriate laws; the wonderful harmony which pervades the system of worlds, wheeling in their immensuosities of space is the result of law; and so the mind, in its search after truth, must do so under the guidance of law. Truth does not wander lawlessly through space, and is not met by the chance of some lucky fool, as it is by the philosopher. Method or law is the leading feature of an educated mind. Another essential quality is *subordination:* this is accomplished through the agency of the will; to be able to control each faculty by means of the will is most desirable, and an exceedingly difficult faculty to obtain. Some men seem to have possessed it to a wonderful extent. When the city of Syracuse was captured by the Romans, Archimides was so much engrossed in one of his problems that he was wholly unconscious of the capture of the city, until he was surprised by a Roman soldier. A famous German philosopher was in the City of Jena at the time of its capture, by Ferdinand, under Napoleon, engaged in writing one of his most profound works; and, on going out to meet his publisher, had his first intimation of the capture of the city by being arrested by a French soldier. Sir Isaac Newton is said to have lived for three years only to think. Sometimes as he would arise from his couch of a morning, he would be arrested by some new conception, and would remain sitting for hours in profound thought, totally unconscious of his situation, or of what passed around him.

My design is to impress your minds deeply that an education is exceedingly difficult to obtain, and that it is a work which

few can say they have accomplished, in its fullest sense, and that you will never obtain any degree of it without striving after it. Do not let the difficulties and perplexities of the pathway discourage you: it is a poor ideal that can be reached without time and toil, or that it is possible to surpass in the actual. It is much better for us to have an ideal which we can never quite reach, provided it be a just one, and in the line of possible accomplishment, and that every step we take is towards it, and carries us nearer and higher, and that we feel that we have not a moment to linger, not even the loss of a day, nor an hour. Mental training is obtained in proportion to the time and labor spent. The highest degree possible requires an amount of labor terminated only with one's life. Newton was in his 85th year improving his chronology. The mind becomes possessed of knowledge by means of the senses—we see, we hear, we smell, and we taste; these are our five senses, our perceptive faculties, and are the avenues of knowledge to the mind. By means of our senses we become acquainted with the qualities of things about us; one thing is hard and round, another is soft and square; one is sweet, another *sour*, beautiful, or homely—this is the simplest knowledge, and yet it illustrates how we become possessed of knowledge. Now, this knowledge would do us no good unless we could retain it, so we are provided with a faculty called memory; and then, after we have acquired and retained the knowledge, it would do us but little good if we could not call up from our past experiences what we have, for instance, read, or heard, or seen; consequently, we are provided with another set of faculties, by which we are enabled to classify our knowledge in the storehouse of memory, by which facts possessing certain characters, resemblances, analogies, or differences are grouped together; and by this set of faculties, we can bring up from memory any fact, and compare it with another fact. It is by this set of faculties that we classify and discover general truths, which do not appear at first sight, and by which we discover principles and laws, and institute science and philosophy. We cannot perform an act of memory until we have something to remember,

nor can we perform an act of comparison until we have acquired and retained knowledge—then we say that the order of these faculties, in their development and use, is memory, retention, and reflection.

The popular saying that "practice makes perfect" is a true one; it is a law, and applies in many ways, either to the physical, mental, or moral nature. We are familiar with it in physiology, where it may be traced in the paralyzed limb, and in the one daily employed in vigorous exercise, or, for instance, in the muscles in the arm of the blacksmith. The same law holds good for the mind; for by constant vigorous exercise, its faculties become strong and well-developed, and by inaction they become weak and incapable of much effort. You are well aware how difficult it is for a beginner to manipulate the keys of a piano, even in the simplest piece of music, and that after assiduous exercise or practice, a celerity is obtained which almost surpasses belief. This is also true of the mind. Make it your first object to fix and hold your attention upon your studies. You may make many efforts at this without success: this is said to have been the secret plan of Demosthenes, who shut himself up in his celebrated dark cave for study; and this will also account for the fact that persons who are unexpectedly deprived of their eyesight will not unfrequently make advances in thought, before unknown to them. *Patience* is a virtue kindred to attention, and one that is miserably lacked by ninty-nine out of every one hundred of the human race: it disposes to quiet, steady efforts, even in the face of difficulties. Sir Isaac Newton said, the difference between his mind and the mind of others consisted solely in his having more patience. There is no department of human effort in which *patience* is more essential than in the study of medicine. It is impossible to learn everything at once; the tree must grow by inches; patient labor and steady effort will bring everything in its time. It is better to learn less, and do it thoroughly, than to hasten impatiently over a subject. This has been compared to an army conquering a country. If you are patient, and conquer everything before you thoroughly,

then you will pass on from victory to victory; but if you have left, here and there, a fort or a garrison unconquered, you will have an army hanging in your rear, and your ground will soon need to be reconquered: so it is in the study of your chosen profession. It is said that the ancients had a great recompense for the scarceness of their books, in the thoroughness with which they were compelled to study them; a book had to be all copied with a pen, to be owned; and he who transcribed it would be likely to understand it. It is said that Demosthenes copied Thucydides ten times. Then it is important for you to be thorough, have a clear understanding of all that you go over. Keep in mind the remarks of the gifted Mr. Wirt: "Take it for granted, there can be no real excellence without great labor."

ARTICLE XL.

NEURALGIA OF THE OVARIES, TREATED WITH THE MURIATE OF AMONIA AND TR. OF ACONITE.

BY JAMES T. NEWMAN, M.D., Chicago.

DEAR EXAMINER:—In contributing this mite to your pages, remember that I do not claim it as anything new; to your many readers, it is only in confirmation of what has long since been spoken of that I reproduce it, for their careful consideration. Having three cases of this troublesome disorder to report, I will now proceed to do so, if you will pardon me for trespassing on your valuable space.

M. B., a very intelligent woman, applied to me for treatment; her statement was concise, and to the point, replying with great accuracy to all questions asked, rendering it very easy for me to come to a conclusion as to what the matter was. I diagnosed neuralgia of the ovaries. The history of the case I will lay before you, that you may be enabled to follow me, step by step. She told me, for the last two years she experienced great difficulty in menstruating. I examined her, and found consider-

able fulness in the right illiac region, with great tenderness. Keen, lancinating pains would shoot down the inner part of the thighs, causing her sometimes to cry aloud with pain.

I immediately ordered a plaster of cantharides, to be applied over the seat of pain. After the surface became vessicated, I sprinkled the salts of morphia upon it, at the same time prescribed as follows:—

℞. Quinia Sulph., ---------- gr. xij.
Ext. Hyoscyam., ---------- gr. xij.
Mice Fiat in Chart., ---------- No. xij.

I continued to visit her regularly, once a day, for a week, but finding no relief, I resolved to change the treatment. In looking over Braithwaite, part LVIII, page 251, I chanced to see an article on the subject of which I am writing. Although I was at a loss to give its rationale; and never since I have commenced the practice of medicine have I given an article, without being convinced in my own mind what it was going to do. But, however. I resolved to give the remedy proposed a trial. I ordered the following:—

℞. Ammonia Muriatis, ---------- ℥ij.
Tr. Aconiti, ---------- ℥ij.
Sy. Aurant. Cort., ---------- ℥viij.
Mice fiat mistura.

Sig. Teaspoonful three times a day. The second day after having taken the medicine, the sharp pain was gone, she could feel no more of it. I told her to continue the use of the mixture for eight or ten days. She did so; at the end of which time her menses came on, and passed off so easily that she told every one that came in her way. She had a slight return of it, but upon the exhibition of the medicine it entirely disappeared.

Case II. A mulatto woman, aged 29, came to me for relief, having heard from Case I. that I had cured her. I examined her, and found the same symptoms that presented themselves in Case I.

I prescribed the muriate of ammonia and tr. aconiti, in the same doses. At the end of a week she said she was well.

CASE III. An Irish girl was troubled with painful menstruation, and keen, shooting pain in the groin and back. I exhibited the above-named medicines, in the same quantities as in Cases I. and II. She used it for eight or ten days; and at the end of which she pronounced herself well. Furthermore, allow me to say, that this has been over six months ago, and not the slightest return of the disease in either of those cases has appeared.

ARTICLE XLI.

EXCISION OF CLAVICLE FOR OSETO SARCOMA.

BY N. SENN, M.D., Ashford, Wis.

Joseph Ammerling, aged 13, a Bohemian boy, applied to me for treatment of a swelling on the left collar-bone, June last.

No predisposition to hereditary disease existed in his family. He always enjoyed good health, until, during the early part of last winter, he noticed a small lump on the anterior surface, at the junction of the middle with the sternal third of the left clavicle. It produced but slight inconvenience, and was only slightly tender on pressure, until the month of May; at that time, it rapidly increased in size; at the same time, it became more painful, especially on moving the arm of the corresponding side, so that when I first saw him, he was unable to use it to any extent.

He then presented a somewhat anæmic appearance; but general nutrition did not appear much impaired. The tumor had attained the size of an ordinary orange, with a broad base, imparting a semi-elastic but firm feel to the touch; taking hold of the clavicle at the distal side of the tumor, it could be moved freely, without affecting the sternal end, producing, at the same time, a grating sound; showing conclusively that there existed a solution of its continuity in the interior of the tumor; there was considerable tenderness on pressure; the skin presented its normal appearance.

As an operation offered the only chances for a recovery, I called in consultation my friend Dr. Marsden. His opinion agreeing with mine, in regard to the diagnosis and treatment of the case, after having obtained the consent of the parents, we operated, June 4th, 1869.

Besides Dr. Marsden, I was assisted by my student, Mr. Jones. After the patient was fully under the influence of chloroform, I made an incision over the centre of the tumor, parallel with the clavicle, extending from near the acromion process to the sterno clavicular articulation. Dividing the skin, superficial fascia, and platysma myoides, the tumor now became apparent beneath the superficial layer of the deep cervical fascia, and the muscles in that region; the former was carefully divided with the knife, from the rest of the structures surrounding the tumor, it was separated with the handle of the scalpel and the fingers—this part of the operation was a tedious one, as the attachments were firm and extensive—the anterior and superior sterno-clavicular ligaments were divided with the knife, then, by inserting an elevator between the articular ends, the posterior attachments were torn through; the tumor was now elevated from its bed, and the clavicle divided with a small metacarpal saw, about an inch and a-half from its distal end. During the operation, the hemorrhage from the small arteries was controlled by pressure with the end of the fingers of the assistants. No ligatures were required. After all venous oozing had ceased, the cavity was washed out with a watery solution of carbolic acid (20–1), and the edges of the wound accurately approximated with nine silk sutures, and supported by long strips of adhesive plaster; a compress, saturated with the same solution, and kept in place with a figure 8 bandage, finished the dressing. The arm was placed in the same position and supported with adhesive plaster, as in fractures of the clavicle. The patient was directed to be kept quiet and placed upon nutritious fluid nourishment.

He slept well during the first night, with but a small amount of anodynes. The day following, he had a little fever, but hardly any pain, and the appetite remained good. On the

third day, he insisted on getting out of bed and walking around, as he felt better than before the operation. The first dressing and the sutures were now removed. About two-thirds of the entire wound had united, leaving a wound at each extremity of the incision, healthy in appearance; they were dressed daily with a solution of carb. acid in linseed oil (1–6). The granulations, becoming spongy, were touched every third day with the solid nitrate of silver. The patient improved rapidly, and in about three weeks the wound had entirely healed. There was hardly any suppuration during the whole course of treatment. Along the line of incision there is now a hard ridge of cicatricial tissue, which answers very well for the clavicle, as the patient can move the arm in any direction, and work with it as well as with the opposite one. Except a slight falling forward of that shoulder, and the large cicatrix, nothing would indicate the absence of the clavicle.

The interesting facts about this case are:—1. The slight amount of constitutional disturbance that followed such a severe operation. 2. The almost unimpaired use of the arm, after the removal of almost the entire clavicle. The tumor is oblong and somewhat flat, and measures 6′ in circumference, 3′ in length, and 2½′ in thickness. It is covered by the distended periosteum; its interior is filled with a red, fleshy, granular mass, and softened and destroyed bone, peculiar to all osteo sarcomatous growths. In the centre, the whole thickness of the bone was destroyed. No microscopic examination was made.

M. L. CAILLETED demonstrated by numerous experiments that pressure retards all chemical decompositions in proportion to its degree. A plate of zinc lost, under ordinary atmospheric pressure, immersed into muriatic acid, 10.0 parts; under a pressure of 60 atmospheres, 4.7 parts; and, at 120 atmospheres, 0.1 parts, in the same period of time. The boiling point of all liquids is affected similarly, and CAILLETED concludes that all chemical processes are in immediate dependance upon the surrounding mechanical circumstances.—*Journ. Phar. et Chimie.—Chicago Pharmacist.*

The Clinique.

CLINICAL CASES IN MEDICAL WARDS OF MERCY HOSPITAL—TYPHOID FEVER, CARCINOMA, WITH EXTRAORDINARY SYMPTOMS.

By N. S. DAVIS, M.D., Professor of Clinical Medicine.

Case I. *September 29th, 1869.*—The case before you, gentlemen, is that of a laboring man, aged about 28 years, naturally spare in flesh and of nervous temperament. He came to me about four weeks since, in my office, complaining of the usual *initial* symptoms of an attack of typhoid fever. I directed him some medicine, and proper hygienic management, and saw or heard nothing more from him until he was brought into this ward of the hospital, about one week since. At the time of admission his case presented all the symptoms of a grave form of typhoid fever, in the advanced stage of its progress. His skin was dingy; countenance dull; lips retracted and dry, leaving the upper teeth covered with sordes; mouth and tongue dry; mind somnolent and sometimes wandering; skin dry and rough, and above the natural temperature; muscular movements unsteady and awkward; abdomen tympanitic and full; bowels moving five or six times per day, the discharges being dark-brown and thin; respirations 20 per minute and short, with dry bronchial rhonchi over both sides of the chest, and some dulness on percussion over the lower and posterior parts. The pulse was soft, quick, and varying from 120 to 130 per minute. If we suppose that at the time he called at my office, he was in the forming stage of the fever, it will be seen, that when admitted into the hospital, he was at the end of the third week of the disease, and the symptoms such as to render the prognosis doubtful.

The soft, frequent pulse, the mental dulness, the muscular unsteadiness, the dark hue of the lips and skin all indicate that profound typhoid condition, when the qualities of the blood and

the properties of the tissues are both impaired, causing all the resulting actions in the economy, such as capillary circulation, secretion, nutrition, inervation, etc., to be performed feebly. In the more malignant cases of typhus and typhoid fevers, these alterations in the qualities of the blood and the properties of the tissues are sufficient to suspend the organic changes, and, consequently, to prove the direct cause of death. In addition to the general pathological conditions, there are important local changes in the viscera of the chest and abdomen. The dry, bronchial rhonchi over the whole anterior part of the chest, with dulness on percussion over the lower and posterior part, and the short inspirations, show that the bronchial mucous membrane is in a state of congestion, and the parenchyma of the lower lobes so occupied with hypostatic or passive infiltration, as to materially diminish the capacity of the lungs for air.

The condition of the lungs, of course, lessens the oxygenation and decarbonization of the blood, and thus indirectly increases the general impairment of function throughout all the organs. The tympanitic abdomen, with the frequent, thin, redish-brown, and copious discharges from the bowels, indicate, in this stage of the disease, extensive softening, and, perhaps, ulceration of the aggregated glands of the ilium and mesentery.

These local pathological conditions in the chest and abdomen are frequently the most dangerous developments, during the progress of this variety of fever; sometimes determining a fatal result in cases presenting only moderate primary changes in the blood and properties of the tissues. In the patient before us, at the time of his admission, the symptoms, as we have already described, indicate much general depression, with serious lesions, both in the chest and abdomen.

Hence, the special indications for treatment were, to sustain the general properties and functions, by plenty of good air and judiciously selected nourishment, and to administer such medicines as would relieve the congested condition of the bronchial mucous membrane, on the one hand; and on the other such as would arrest the process of softening and disintegration in the glands of the ileum and colon. The first object was secured by

the size of the ward, its free ventilation, and the limited number of patients in it, and the feeding of the patient, animal broths, well salted, alternately with thin, sweet milk and wheat flour porridge. These articles of nourishment, given in small quantities, and at short intervals, are capable of being taken up by the absorbants and lacteals of the stomach and duodenum, leaving the smallest amount of fecal residue to pass over the diseased surface of the ilium and colon. To accomplish the second purpose, we gave one fluid drachm of the following mixture, every four hours:—

℞. Hydrochlorate Ammonia,---------- ℥iij.
Tart. Ant. et Pot.,---------- 2 grs.
Sulph. Morph.,---------- 3 grs.
Syrup Glycirrhiza,---------- ℥iv.
Mix.

To secure the third object we give one fluid drachm of the following emulsion, every four hours, alternately, with the foregoing prescription:—

℞. Ol. Terebinth.,---------- ℥iij.
Tinct. Opii,---------- ℥iij.
Pulv. G. Acaccia, White Sugar, āā,---------- ℥iv.
Rub together, and add Mint Water,------- ℥iij.
Mix.

After these remedies had been used three days, the dry, bronchial rhonchi diminished, and were partially replaced by moist mucous rattles; the skin became less hot and dry; but the pulse remained weak and frequent, and the mind more wandering.

The emulsion was continued every four hours, and 10 drops of chloroform added to each dose. The use of the solution of hydrochlorate of ammonia, etc., was diminished to one dose, morning, noon, and evening. The same nourishment was continued as before. Four days have elapsed since any alteration was made in his treatment.

If you now examine the patient carefully, you will find the skin but little above the natural temperature, and more soft;

the countenance more pale; the lips thin, and still somewhat retracted, but the sordes mostly gone from the teeth; the middle of the tongue dry and red, but moist and white along the margins; the respirations shorter and more frequent than natural, with a moderate development of mucous rhonchus over the anterior part of the chest, and some dulness on percussion over the lower and posterior part. (Here the class were required, individually, to auscultate the patient.) The pulse is 110 per minute, small and soft. The abdomen is only slightly tympanitic, but the intestinal discharges continue thin and light-brown, and average from three to five discharges in the 24 hours. You will readily perceive that some of the symptoms to which your attention has been called indicate improvement, while others point to a more doubtful prognosis.

For instance, the nearer approach to a natural condition of the skin, the less appearance of sordes on the edges of the lips and teeth, the moist condition of the margins of the tongue, and the lessening of morbid sounds in the chest all indicate the commencement of convalescence. But the continued weakness and frequency of the pulse, with the quality and number of the intestinal discharges, indicate the continuance of a serious amount of disease in the ilio-cæcal portion of the alimentary canal. It happens not very unfrequently in the severer cases of enteric or typhoid fever, that all the general symptoms of fever subside, and convalescence ensues, while these patches of aggregated glands in the ilium, which had become softened or ulcerated during the progress of the fever, are still not cicatrized or much improved in texture. Your attention is called to the fact as one of much practical importance. If it be overlooked, and as soon as the patient appears otherwise convalescent, all remedies designed to exert a soothing influence on this part of the mucous membrane are withdrawn, and a liberal diet allowed, it will sometimes happen that the intestinal evacuations will gradually increase in frequency; and after a week of partial convalescence, the abdomen will again become tympanitic, the mouth dry, the pulse frequent and feeble, with rapid loss of strength, until a fatal result is reached. In a smaller number

of cases, the general appearances of convalescence continue, but the patient does not improve in strength.

The bowels do not become regular, sometimes moving three or four times in succession, and then quiet 24 or 36 hours. After a time, varying from one to three weeks, they are suddenly attacked with acute pain, in some part of the abdomen, followed rapidly by abdominal distension, tenderness, and prostration. The pulse becomes very rapid and feeble; the countenance hippocratic; the skin covered with cold perspiration; and death follows in from 24 to 48 hours. These are cases in which some one of the patches of Peyer's glands remained unhealed, after the convalescence of the general fever; and instead of subsequent cicatrization, it slowly extended, until the coats of the intestine were perforated, inducing, suddenly, peritonitis and death. Many years since, a marked instance of this kind occurred in the person of a medical student in this city.

After an apparently mild course of typhoid fever he convalesced, continued to be up a part of each day, for a week, and began to go to the table for his meals, with other boarders, when he was attacked suddenly with fatal peritonitis, from a perforating ulcer in the intestine. In a much larger number of cases, however, patients convalesce from typhoid fever, while numerous places in the mucous membrane are in a state of partial or complete ulceration. They regain a fair degree of flesh and strength, and often attempt to resume attention to their ordinary work. But the intestinal evacuations never become regular. In some, there will occur from one to three or four thin, fecal discharges per day, constituting what might be styled a slight, chronic diarrhœa. This state of the system will continue, in some cases, many months; and, finally, the patients begin to lose flesh and strength, and slowly reach a stage of fatal exhaustion.

In other cases, the uncicatrized patches appear to be limited to the colon. The patients recover a fair degree of flesh, and resume attention to business, but their intestinal evacuations remain very irregular, usually going from two to four days

without any discharge, and then have six or eight in a single day. It would seem that the peristaltic motion of the small intestines was impaired, and the fecal contents were carried forward only slowly; but so soon as they begin to accumulate in the colon, and come in contact with the patches of diseased membrane, an exaggerated motion is started, which does not stop until the whole canal is emptied, when it returns to its dormant state as before. Patients have come to me often with this state of the bowels, and on carefully inquiring into their history, I have traced them directly back to an attack of typhoid fever, which had occurred, sometimes, four or five years previously. I am thus particular in calling your attention to this point, because it is one of direct practical importance.

Careful attention to the state of the bowels, during the convalescence from typhoid fever, will save many patients from troublesome sequelæ. The patient before us gives plain evidence of commencing convalescence, but his bowels remain actively loose, and his pulse quick and feeble.

We shall, therefore, continue to give him the emulsion of turpentine and laudanum, every four hours, and feed him on sweet milk and wheat-flour porridge, until the intestinal discharges become more natural.

Case II. Mrs. ——, aged 40 years, native of Ireland, was brought to the hospital several weeks since, from Kansas, where she had been living with her husband for some time past. I do not call your attention to this case for the purpose of discussing either the pathology or treatment of the disease under which she is laboring, but simply to point out some features that are of rare occurrence. You perceive that the right side of the face and neck are much swollen, and the right arm and hand still more swollen, distending the skin until it is shining and tense to the ends of the fingers. As I remove the covering you see the same swelling occupying the whole of the right anterior half of the chest, from below the breast to the top of the shoulder and neck, and from the middle of the sternum to the right laterally to the anterior edge of the scapula.

This swelling, embracing the right anterior and lateral half of the chest, right arm, shoulder, and corresponding side of the neck and face, is simply œdementous, pitting, as you see, on pressure, and accompanied by no discoloration, except along the right side of the trachea where it is purplish, as though the extravasation of serum or water had been accompanied by some of the red corpuscles. The œdematous infiltation in the neck and over the upper end of the sternum is so great as to render both respiration and deglutition somewhat difficult, and causing her to remain in an upright or inclined position nearly all the time. On examining further, you find the right breast little more than its natural size, the skin looking corrugated, and the nipple drawn in, while to the touch it is hard as a stick, and immovably fixed to the ribs, presenting a good sample of schirrhus, or hard cancer, involving the whole breast, mammary gland, areolar tissue, and all. The left breast is larger, but moveable on the ribs, with hard lumps or nodules of schirrhus limited to the mammary gland. There are no enlargements of the lymphatic glands in either axilla, or along the clavicles externally. The patient is of a sanguino-lymphatic temperament, not emaciated, and the general functions of the system very well performed.

The chief peculiarity of this case, which distinguishes it from ordinary cases of cancer in the breast, is the extent and location of the œdema.

Schirrhus of the breast is often accompanied by enlargement and induration of the Lymphatic glands in the axilla and along the border of the pectoral muscle. And these glands sometimes press upon the nerves and bloodvessels to such an extent as to make the arm both painful and œdematous.

But in this case there are no tumors in the axilla, and none to be felt externally along the clavicle. Neither is the œdema limited to the arm, as is usual in such cases: but it extends to all that part of the right side of the chest, shoulder, neck and face, from which the blood is returned through the right subclavian vein. This would indicate the formation of some cancerous growth behind the first rib or its junction with the

sternum, in such position as to obstruct that vessel. The tumefaction caused by the œdema, however, is such as to prevent any satisfactory examination of that region, either by palpation or auscultation. That the œdema is the result of direct obstruction of bloodvessels, either by pressure or emboli, is evident from its strictly circumscribed character.

When dropsical effusions take place from spanæmia or impoverishment of the blood, they are general, and are always influenced by gravity, and hence appear most prominent in the feet and legs first. But here the lower extremities are entirely free. The apparent obstruction of the subclavian vessels, in this case, and the increasing œdema in the neck, will probably cause life to terminate early, by complete suspension of respiration and deglutition. As the hour has expired, I will not detain you for any comments on the subject of treatment; for, in this case, medicine and surgery are alike powerless.

COOK COUNTY HOSPITAL RECORDS.

SERVICE OF DR. H. A. JOHNSON.

TYPHOID FEVER?

WM. E. QUINE, M.D., HOUSE PHYSICIAN.

Patrick G. Ireland, laborer, aged 22, admitted Oct. 4, 1869.

History.—Delirious on admission, and no previous history obtained. We noticed a dull, besotted expression, suffusion of eyes, hurried breathing, hot, dry skin, soft, quick, frequent pulse, sordes on teeth and lips, dry, brown, fissured tongue, fulness, but not marked resonance, of abdomen, great tenderness of, but no gurgling in, right ileum, and distension of bladder.

Progress and Treatment.—Catheterized. Infusism digitalis, to diminish the frequency of the pulse, and to aid warm sponge baths in reducing temperature. Strychnia and acid nitric to stimulate the failing functions of the nervous system.

October 6th, 1869.—Bowels moved three times, after the administration of an enema. Urine very scanty and retained

in bladder. Potassæ nitras, grs v, every three hours, and catheter introduced twice a day.

October 8th, 1869.—Skin not so hot and dry. Urine more copious but is still retained; slight return of consciousness; tongue quite moist and more readily protruded; pulse fuller, stronger, and less frequent. Infusism digitalis discontinued.

October 10th, 1869.—Urine continues copious; skin moist, but cold; tongue, also, moist and cold; no movement of bowels since the injectiou was administered on the 6th inst.; pulse a little increased in frequency, and very feeble. Died, October 11th, 1869.

Autopsy.—The contents of the abdomen only were examined. Liver, spleen, and mesenteric glands enlarged and softened; hyperæmia of the small and of the ascending portion of the large intestines. Solitary glands and Peyer's patches presented nearly all the stages of destruction and commencing repair; and two points of ulceration extended to the peritoneum.

Remarks.—This is the second febrile disease that has come under my observation, in which there was obstinate constipation, entire absence of eruption, and no gurgling in the right iliac fossa, and in which an autopsy revealed very decided "typhoid lesions;" in fact, in the first instance, peritonitis, induced by perforation of the intestine, immediately preceded death.

Correspondence.

PROF. DAVIS:

DEAR SIR:—The following case which recently came under my observation for treatment presents some interesting features, illustrative of the effect of long standing indigestion upon the nervous system:

Mr. P., aged 50 years, of great muscular development and strength, by occupation a tradesman, has for 15 years suffered with the ordinary symptoms of dyspepsia, and some three months ago, he had an attack of remittant fever: aside from

this, his health has for years been good, until some two months ago, when he was suddenly seized with a sort of sinking or fainting spell, which continued some five minutes; consciousness entirely suspended, with a feeling of oppression and mental debility, with partial loss of memory.

Attacks like this have since continued to occur, sometimes five or six a day, and again disappearing for three or four days, only to return again with more unpleasant results, reducing his physical strength, and greatly impairing the strength and activity of his mind. It was upon one of these returns of attacks that I was consulted, and asked for an opinion as to the pathological condition of the gentleman. Upon examination, I found him to be a man of some 170 or 180 lbs. weight, compactly built, with a moderate amount of adipose tissue; complexion rather florid; temperature of the skin above normal; mental depression, with much anxiety concerning his condition, and apprehensive that he was becoming demented. Can not continue a connected train of thought; suffers no pain; sleeps ordinarily well; circulation good; pulse full; tongue coated with a heavy, white coat in the centre; appetite good generally, sometimes voracious; bowels regular. The "spells" of which he complains occur in the daytime, but at no particular period of the day.

I believe that the symptoms detailed result from functional derangement of the nervous system, resulting from an impoverished state of the blood, depending primarily upon imperfect digestion, and deficient nutrition and assimilation.

The attacks do not resemble epilepsy in any particular. The patient for a long time believed that his stomach was infested with a reptile of some kind, and said that the "spells" were preceded and induced by the reptile making an effort to get into his throat, and that when it reached a certain point in his throat the attack came on. He was accordingly treated for tape-worm, and has undergone a variety of treatment, general and alterative—but all has availed nothing.

He is now upon the following:—

℞. Brom. Potass, ---------- ℥ij.
Mur. Tr. Fe., ---------- ℥j.
Quinia, ---------- gr.xvi.

Syr. simplex ℥j., misce; of this he takes one teaspoonful half-hour after meals, with a pill of rhei. every morning. I think he is being benefited by this treatment.

I desire an expression of opinion from the profession, as to the pathological condition of this gentleman; if I have detailed his condition with sufficient conciseness to render such an expression possible.

THEODORE GRIFFIN, M.D.

Troy, Mo.

Foreign Correspondence.

BERLIN, *September 8th, 1869.*

DEAR EXAMINER:—When in Wiesbaden, I was interested in calling at the laboratory of Prof. Fresenius, having used his book of Qualitative Analysis in America, which, with his Quantitative Analysis, is one of the best books in the hands of the student. I believe the laboratory is unconnected with any other institution. It accommodates about 50 students, and is well furnished with apparatus, but not so convenient as some of our similar laboratories at home. The Professor lectures several times each week. The course occupies about two years, at an expense of $100 a year. There is some instruction also given in pharmacology, mineralogy, and organic chemistry. The school is especially adapted for analytical chemists, and is but little frequented by medical students.

At Bonn, the lecture-room had closed, and no clinics were being given. I visited the surgical wards of the Catholic Hospital, which had many interesting cases, but were in the most slovenly, neglected condition of any wards I have yet seen. The building was erected for a castle, and is in a measure unfit for its present use. One of the cases was an infant about two weeks old, which had been operated on for artificial anus.

Before the operation, at about the third day, the child was icteric and melanotic. A considerable quantity of meconium and fæces were discharged at the completion of the incision. The child rapidly attained a normal color, and when I saw it, seemed in a hopeful and comfortable condition. Bonn has about 20,000 population, and, of course, does not afford very extensive hospitals. About 1700 out-patients had visited the medical clinic this year, up to August 28th, and about an equal number the surgical clinic. Prof. Veit is an able lecturer on obstetrics and diseases of women, and has written a book of some value on the latter subject. Prof. Rindfleisch is one of the attractions of the university, being one of the most reputed authors on pathological anatomy in the country. Bonn has about 190 medical students, 60 of whom attend the clinics.

Göttingen has a neat and orderly kept hospital, with about 130 patients, among whom were twelve or more with venereal disease.

The Anatomy Museum contains something over 4000 specimens, among which is a collection of over 300 cranii, of different races of men.

There were several specimens injected with quicksilver, beautifully illustrating the lymphatic system.

Prof. Schweigger gives four lectures and four clinics on the eye each week, and two hours on the use of ophthalmoscope. Prof. Baum gives instruction in surgical operations, four hours a week, and a daily clinic. Lectures on general surgery five times a week, by Prof. Lohmeyer.

Dr. Marmé gives lectures on electro-therapie, with practical application of the induced and constant currents, twice each week. The medical department of the university, however, is best resorted to for anatomy, physiology, and chemistry, which are provided with numerous and able instructors, such as Profs. Henle, Krämer, Krause, Meissner, Wöhler, Fittig, Von Uslar, Boedeker, and others. The medical students number 150.

The Berlin medical school vies in excellency with those of Paris, London, and Vienna; and it is impossible to form any correct idea of its advantages at this season of the year, when

lectures and courses have ceased, and many of the professors away for recuperation and pleasure. It would be somewhat surprising if Berlin, with about 700,000 population, and a celebrated university, should leave anything undone that could be done, to render every possible facility to the medical student to acquire knowledge. Virchow and Rokitansky, Frerichs and Oppolzer, Gräfe and Arlt, Martin and Braun, Von Langenbeck and Billroth, as representatives of the Berlin and Vienna schools, are all men of profound learning and vast experience; and, practically, they can be said to scarcely excel each other in their particular departments. Many Prussians go to Vienna, some Austrians come to Berlin. But as I often have occasion to remark to German students, Americans do not resort to Europe to hear their medical professors, as in many departments we have their equals or superiors in America, but rather to see and examine their patients; and whatever city gives the greatest freedom in this respect will be the more attractive to us.

The largest hospital of Berlin, Charité, has an average list of about 1360 patients, and is a model of cleanliness and order. In this are most of the public and many of the private courses given. There are several other hospitals in the city, accommodating from 50 to 400 patients, some of which are accessible to students. To the German student who has five years to his course, or the specialist, I presume Berlin furnishes as good opportunities, and, perhaps, in some, better than Vienna; but for most Americans who wish to carry on several subjects at the same time, he can undoubtedly accomplish his ends better in Vienna, where the patients are concentrated in one building.

Much more attention is given to skin disease and venereal in Vienna than here. The death of Prof. Böhm, and continued feebleness of Prof. Gräfe, leave the eye department a little unsettled here. Chemistry, anatomy, and physiology are more advantageously studied here.

Vienna has about 1200 students, Berlin 500. Those who have studied at both places, so far as I have learned, give testimony in favor of Vienna. Yours truly, F.

ON THE PATHOGENESIS AND TREATMENT OF STERILITY IN THE HUMAN FEMALE.

By WM. C. ROBERTS, M.D., of New York.

In May last, I read before the N. Y. Academy of Medicine, a paper on the causes of sterility in either sex, based mainly upon physiological relations.

Subsequently, Dr. Kammerer read a paper on the pathological conditions causing sterility, based upon a view of 408 cases, 201 of which had occurred in his own, and 207 in clinical practice (*Trans. N. Y. Ac. of Med.*, vol. 3, p. 7). These cases, which embraced the numerous descents, deviations, and diseases to which the uterus and its appendages are liable, were treated with more or less success, according to the usual methods; the proportion of success, so far as the removal of the sterility was concerned, being about one-third of the cases treated. One case in particular, however, deserves to be mentioned (No. 12); that of a woman whose inner uterine orifice was dilated at one session just after menstruation, and who conceived, after a barrenness of four years, immediately after; whether *propter hoc*, cannot, perhaps, be exactly determined. The physiological causes of sterility are not alluded to in Dr. K.'s paper, unless, indeed, the dilatations of the uterine orifices were intended to allow of an easier admission of the spermatozoa to the cavity of the uterus; and the intra-uterine injections employed to remove the noxiousness of the secretions.

In the paper which I read before the Academy, I showed:—

1. That the generative apparatus of both sexes must be in a healthy condition. In the male, the penis must be capable of erection and ejaculation, and of emitting healthy semen.

In the female, the uterus and its appendages must exist, and be perfect; the ovaries contain fecundible ova; the tubes be pervious; the lining membrane of the cavity and neck healthy; and the os uteri, externum and internum, hymen, and vagina, pervious.

2. That it was by no means necessary that there should exist, at the moment of coitus, any orgasm on the part of the female, or a complete introition of the male organ intra vaginam; a very slight peri-vulvular congressus depositing the semen upon the vulva, sufficing for impregnation.

3. The ripe graafian vesicle, secreted either just before, during, or after menstruation, and even, though not often,

during the intermenstrual period, must, in some part of its course into the uterus, come into direct and immediate contact with one or more living spermatoza, in order to be fecundated.

4. Semen contains, as its most important constituent, animalcules, spermatic cells, zoospermes, spermatozoa, or zoids, as they are variously called according to the idea which is formed of their nature. In the field of the microscope, they are seen to move about with varying activity, and whether or not they be endowed with true vitality, life, or be or be not organized animals, which last seems generally now to be believed, their volition is seemingly directed by instinct, towards, and in spite of all obstacles, the ovum which they are to impregnate. In a natural temperature, they live for 48 or 72 hours; are found living, even in the cadaver, after 24 hours, and in bitches have been seen to move seven or eight days after copulation. Acids, urine, electricity, strychnia, narcotics, and certain vagino-uterine secretions destroy them; but of this last hereafter. Probably they are reproduced; they are certainly nourished: strange creatures, which, by union with an ovule, are capable of communicating to it, not only the physical resemblance, but the temperament and constitution of the parent. They appear in the semen at puberty; are found afterward at all periods of life, and in men of advanced age (82) have been found as numerous as in the adult.

5. The material contact of the semen and the ovule, both animated by their vitality, and perfect in themselves, is the essential condition of fecundation, and the intimate fusion of these two elements is alone capable of giving birth to the new being. *If any obstacle* impedes the immediate contact of the two germs, conception on the part of the female is impossible. Upon an accurate knowledge in regard to these causes depends the successful treatment or cure of sterility.

6. The *aura seminalis* alone is insufficient. Filtered semen is equally so. No part of the semen but the animalcules suffices.

7. The fecundating power of the animalcules seems connected with their vitality, for it diminishes, and is completely extinguished with their movements. Semen is infecundible without living spermatozoa; and it is certain, however they enter it, that they get within the vitelline membrane of the ovule, and have been seen in immediate contact with the yolk, when they part company and disappear by liquefaction.

8. The merest drop of a high dilution of the semen of a frog, directly applied to the egg of the female, suffices to fecundate;

but more than one spermatozoid is required. Two hundred and fifty-five, in the experiments of Prevost and Dumas, impregnated sixty eggs out of three hundred.

9. Neither the movement of the vibratory cilia, nor an aspiratory spasm, nor capillarity, can account for the progression of the spermatoza. It is to their own motility, and to their power of overcoming obstacles, that this is wholly due. The passage of the spermatoza from the uterus into the tubes occupies 8 to 10 hours; arrived at the free extremity of the tube, they reach to, or upon the ovary, by means of the fimbriæ which unite the *pavillon* to that organ. If there they meet with a mature ovule, fecundation may result. Twenty or thirty minutes are required to enable them to enter the uterus. The tubes take from two to six days to transmit the detached ovule to the uterus, where, if previously fecundated, or when fecundated it stops and is developed, imbedded in decidua. If not, it escapes with the decidua in 10 or 12 days, or at the end of menstruation. The period most favorable for impregnation, then, is immediately before, or during, or soon after menstruation ceases. The flow of menstrual blood does not impede, but rather accelerates the progress of the spermatozoa. But how are we to account for fecundation during inter-menstrual periods, unless we suppose that coition hastens the development and detachment of a mature ovum? Fecundation and coition are separated for at least the time which is required for the spermatozoa to pass through the uterus and tubes, and reveals itself by no special signs. A single act of coitus may suffice for impregnation, of which many instances are known. If, now, we attempt to assign the causes of infecundity from a physiological point of view, we shall find that men are infecunds because they are impotent or aspermatic, *i. e.*, incapable of erection or ejaculation: and even when capable of emission, are as aspermatozoic, that is, secrete a semen or fluid which contains either no or no living spermatozoa. Eunchs possess for a while an incomplete power of erection and an ejaculation which must be aspermatozoic, which, for the lack of the stimulus of venereal appetite, they gradually lose. Impotence is not necessarily associated with either aspermatism or aspermatozoa. It is sometimes purely nervous, and when cured, the power of fecundation may exist or return. It occurs among the newly married and in the old. But very old men are not necessarily infecund, as we have seen, and the case of old Parr is in point. The only way in which aspermatozoa can be positively ascertained, is by submitting the semen to the microscope soon after its emission.

But it is chiefly with infecundity in the female that we are concerned, and allowing that there is no fault in the generative faculty of the male, it behooves us, to enquire into its causes. Admitting that no physical defect of organism occur in her, and that, as we so often see, she is robust, healthy, menstruates more or less perfectly, and is free from organic uterine malformation or disease, why is it that the spermatozoa do not reach and fecundate her ova? Ill-health may, I think, possibly prevent this from occurring, by impairing the fecundity of the ova, or faults in the ovary or ova may have a similar effect. Dysmenorrhœa, though often associated with infecundity, does not necessarily cause it, and the reason of the association is probably purely a mechanical one. The cause which prevents the easy escape of the menses, and renders it painful, may equally prevent the access of spermatozoa to the uterus, tubes, and ovaria. To these we shall presently advert.

But these are not the only causes for infecundity on the part of the woman. There is another and a principal one, to which passing allusion may be found in authors, but it has by no one been so markedly assigned and scientifically considered as by Donné, and our countryman Dr. Sims, to whom Surgery and Science are alike both deeply indebted.

I allude to the *destruction of the spermatozoa*, by the vitiation or peculiar constitution of the vagino-uterine secretions, by which fecundation is rendered impossible.

In Donné's "Cours de Microscope," etc., the work of a zealous, cautious, and candid observer, we find much that is interesting and important on this subject. Acetic acid instantly kills the spermatozoa, but leaves them perfectly intact for years. Blood and milk exert upon them no deleterious influence, saliva kills them rapidly, urine instantly. Pus and the *muco-purulent matter of uterine leucorrhœa* does *not* affect them by its contact. They live perfectly well in the mucus secreted by the vagina in a normal state, which is slightly acid; but, and this observation is most important, the ascidity of the mucus secreted by the vagina becomes such, in some circumstances, as when there is congestion, acute irritation, or inflammation of this organ, that the zoospermes *seem unable* to live in it more than a few moments. He has even seen them, particularly, give no sign of life, in less than two minutes, in the vaginal mucus of a woman of 22, affected with an extremely acid discharge. "Can this, then," Donné says, "be considered as the cause of sterility in some women?"

Vaginal mucus is white, opaque, creamy, not viscid, and

always *acid.* *Uterine* mucus, on the contrary, is transparent, stringy, tenacious, like albumen, sometimes clouded with purulent matter, but always *alkaline*, turning litmus paper blue, whilst the mucus of the vagina always reddens it.

The action of this (uterine) mucus on the animalcules varies according to circumstances. Generally the spermatozoa brought into contact with uterine mucus do not suffer. But *certain kinds of uterine mucus* kill the animalcules with the greatest rapidity. Nor is this mucus distinguished from others by any appreciable characteristic, microscopic or otherwise, being either pure and transparent, or opaque. An excess of alkali seems to be the only probable cause of its deleteriousness, litmus paper becoming instantaneously intensly blue.

No possible means of ascertaining the fact seems to exist, except that of submitting the spermatozoa to the action of uterine mucus of various kinds or qualities. "Do not," says Donné, "the facts related lead to the belief that alterations of the vaginal and uterine secretions play an important part in causing sterility, by killing the fecundating liquid; and is not some light thrown on its hitherto obscure causes, and a suggestion made of a rational and efficacious remedy?"

It is but doing simple justice to our countryman, Dr. J. M. Sims, to say, that he is the first among us to revive those ideas, and give to them a practical application (On Mic. in Diag. and Treat. of Sterility, *N. Y. Med. Jour.*, Jan., 1869). In this paper he lays it down: 1st, we must have spermatozoa in the semen; 2d, they must enter the utero-cervical canal; 3d, the state of the secretions must be favorable to their vitality. In the absence of the second of these conditions only is any operation to be thought of. How are these facts to be ascertained? By examining the condition of the vaginal and uterine secretions after coition. A little of each is to be withdrawn with a syringe, and placed under the microscope; and to do this accurately, the fluid must be retained for some time after in the vagina. He thinks the best period for making the investigation is the fifth or sixth day after the menstrual flow. Dr. Sims, in one respect, differs from Donné. He says, "the vaginal (normal) mucus, by its natural acidity, kills very quickly *every* spermatozoon, and seems to be a perfect poison for the superabundant ones." If this were true, fecundation would very seldom, almost never, occur. Donné, more correctly, I think, says, its slight natural acidity is not noxious to the spermatic animalcules, *but is only so when excessive.* The cervical mucus is to be carefully separated and distinguished from the

vaginal, and withdrawn with a syringe for examination. Dr. S. thinks it possible to obtain a second specimen from higher up the canal, or even from within the os internum, which I should think would be difficult, and finds in the one sometimes living, in the other dead spermatozoa. Donné does not carry his researches so far. He is content to take the mucus which hangs out of the os externum, or can be withdrawn from within the neck. Dr. Sims thinks that if the cervical secretion contains little opaque spots of milky whiteness, and when it is very thick and albumino-purulent (as also when perfectly clear), it is poisonous. Donné's observations *generally* (p. 293) oppose this assertion:—*A certain quantity of mucus is necessary to produce this effect*, which cannot be told from its natural or microscopic appearances—too *alkaline* (?) if uterine; *too acid* if vaginal. Be all that as it may, there is a peculiar condition of either of these secretions, whatever it be which does kill the spermatozoa, and occasion sterility; and the great point is to remedy it. Dr. Sims justly says, it is not every woman who has dysmenorrhœa (and I add, or leucorrhœa), who is sterile, nor every man who may be vigorous and enjoy good health, who is capable of procreation. He has known half-a-dozen husbands—in one place he says many—whose semen had no spermatozoa. Dr. Sims' paper proves and he frankly acknowledges, that the operation of incising the cervix is seldom necessary or proper, often quite uselessly performed; and he no longer thinks that the most common obstacle to conception is a more or less contracted utero-cervical canal (p. 24, lib. cit.) I quite agree with Dr. S. that the necessary investigations into this interesting and practical subject, by which alone a true and scientific knowledge and basis of action can be obtained, involve neither indecency nor sacrifice of self-respect on the part of either surgeon or patient.

If, then, it should be asked, what necessity then exists for dilating the two orfices and neck of the uterus, we answer, 1st, because of its allowing a more easy escape for the menstrual blood; and 2d, because it allows an easier access to the spermatozoa. Although neither an aggravated dysmenorrhœa, nor a very contracted os uteri, internum or externum, are necessarily fatal to, they are unfavorable to impregnation, and should, as a part of the treatment, be remedied. I cannot, for my own part, imagine that flexions, however great, of a part so short and so flexible as the neck of the uterus, which are so readily restored by the introduction of a long and suitably-sized speculum, and which, moreover, I so seldom encounter, can offer any

serious impediments to fecundation. But the contractions of the orfices are real and unmistakable, often obstinate, and contribute, I doubt not, to this result; but even then very partially, for, as Dr. Sims justly observes, cases are recorded where conception occurred when the os barely admitted a small-sized probe, and that spermatozoa now and then pass along the Fallopian tubes, which ordinarily admit a bristle. It is, then, to the state of the vaginal and uterine secretions, the semen being healthy, that we must look for the great cause of infecundity in the female. The remarks of Joulin on this subject are worthy of repetition:—"The contraction which has its seat at the internal orfice of the uterine neck is one *of the most common causes of infecundity;* and particularly among multiparæ. But women who have borne children sometimes exhibit this disposition, which oftenest coincides with an extreme narrowness of the neck of the womb and imbrication of the folds of the *arbor vitæ*. This cause of sterility which is usually accompanied with the phenomena of dysmenorrhea, was until lately unknown.

"The treatment consists in dilating the constricted region. I prefer a cylinder of prepared sponge, small to begin with. I have obtained 2 successes with this proceeding;" Becquerel 4, and Meisteler 7, out of 9; McIntosh 24 out of 27, 11 of whom bore children; and Corty several followed by conception (410). This certainly shows that, although closure of the uterine orfices does not necessarily prevent, dilatation exerts a considerable influence over the subsequent fecundity of the patient.

"The first sponge," says Joulin, and Corty repeats him, "does not pass through the internal orfice; each one penetrates a little further than the first, and simply dilates the neck; but later, the inner orfice becomes permeable. The sponge applied swells immediately, and the woman can attend to her business without feeling the least inconvenience." This is only partially true. It sometimes produces pain and irritation within 24 hours, and requires removal. I once saw frightful results from the thrusting of a sponge-tent into the uterine cavity. Corty says an interval of 2 or 3 days should elapse between each introduction. Joulin says, if not removed, generally about the 3d day a discharge takes place of a clear, abundant, *fetid* fluid, which disappears on its removal. "I renew" he says, "these applications twice a month—10 days before and after menstruation. When the dilatation is sufficient, I suspend their introduction, and recommence if the stricture tends to reappear, for often the amelioration is only temporary. It supplants the incision, which, unless the sponge-tents are used simultaneously, cica-

trizes and contracts, leaving things as they were. It is simpler and less dangerous, and women, at least, if they have not patience to follow out the plan, *are often relieved of their dysmenorrhœa.*" "Uterine deviations," says Joulin, "are not causes of sterility, for the semen need only to be deposited in the vaginal cavity, not projected into the os. Unless, then, when very intense, and the angle of flexure very great, displacements of the uterus do not offer any serious obstacles to conception." Tents of sea-tangle (*Laminaria digitata*) are preferable to prepared sponge, because they can be longer retained without producing irritation and fetid discharge, and do not rot and break; but I do not find them as easy of introduction. Corty repudiates them.

Other means of dilatation are employed. Dr. McIntosh used flexible metallic bougies. Bennet prefers wax or gum-elastic bougies to metallic ones. Simpson uses metallic stems of graduated sizes, left in the uterus for various lengths of time, and sometimes changed daily for days together, or left in permanently. With the gum-elastic French bougie, fine or olive-pointed, varying in diameter above the point (bougie à ventre), all my own successes have been attained. Generally, the point reaches to and strikes firmly against the os internum, and irritates it spasmodically. After a time, if not too large, with a little management, it enters the stricture and passes up to the fundus with little or no pain. The next time, again, perhaps, nothing will pass, and so on, until sufficient dilatation is effected to admit a larger size. Sometimes, on the same day, one bougie, after remaining in a little while, may be withdrawn, and a larger one passed, but not often. Strictures of the os internum uteri, like strictures of the urethra in the male, are irritable and capricious, and must either be coaxed or taken when in good humor. If it is going in, the bougie must pass in quickly, almost precipitately. I think I understood Dr. Kammerer to say that he also made use of steel bougies of graduated sizes. All I have to say about this is, that safe as these may be in skilful hands, and successful—they have not been so in mine—they cause pain, and, I think, excite irritation and spasmodic contraction in the upper os, which makes it difficult to pass them through it; and if pushed in forcibly, might, I should think, do mischief. I can conceive of cases in which it might be necessary to incise the outer os, or to dilate the cavity of the neck with sponge or laminaria, in order to introduce the bougie; but when a hysterotome of any kind, a sponge-tent or slip of laminaria can pass, a slender-pointed, flexible, gum-elastic bougie, I

should think, could be passed also, and with time and patience effect the object. Try to learn the course of the stricture, pass in the bougie in it, firmly and quickly, through the os, *au fond.* If it means to go, it will then, and may be retained for a longer or shorter time. I believe it would be well to leave it in for some hours. If you do not succeed after a short trial, suspend the operation till a later day. If the stricture is, or becomes irritable, the more you try, the less likely you are to succeed. Success is either null or immediate. When complete dilatation has been obtained with a bougie of large size, the passage of it becomes easy, but it must be repeated at intervals; after menstruation; perhaps best in the true inter-menstrual period (10 or 14 days after), for if the woman should happen to have conceived, abortion would almost inevitably follow the introduction of the bougie into the uterine cavity. The bougie should be new, firm, and not too flexible, or it will double up and not pass. Bougies that have been used many times are liable to this objection. If, after withdrawing the bougie, a laminaria tent cou d be introduced, and left *a demeure* some days, it would be well: but it is not easy or always possible, and the bougie alone must be depended upon.

All these operations have for their object the facilitation of the escape of the menses and removal of dysmenorrhœa, and the allowing of an easier and freer entrance to the spermatozoa. But beyond this is the aid afforded to methods intended to effect the change in the uterine secretions necessary to insure the vitality of the spermatozoa. If this cannot be done, our researches and conclusions upon this point in the pathology of sterility will be of no avail. It is to be effected, as far as I know, by cauterization, chiefly with nitrate of silver, introduced in the solid form, or by injection, into the cavity of the neck and uterus; although other substances are employed. Dr. Sims' pamphlet is unfortunately silent on this point. Corty ranks among curable causes of sterility, simple or complicated imperforation, congenital or accidental narrowness of the uterine orifices, the frequent cause of mechanical dysmenorrhœa; and says by dilatation and double incision of the neck, he has obtained unquestionable cures of more than 15 sterile women, whose fecundation followed the treatment in from 3 to 15 months. Flexions, when very decided, are causes of sterility, and incurable when held down by adhesions; and he does not partake of the opinion of M. Joulin, on the small inportance of deviations of the uterus as causes of sterility. He thinks that the glans penis should, at the moment of ejaculation, be oppo-

site to the meatus uterinus; and that even a temporary restoratior to the natural position (p. 1008) suffices sometimes for fecundation; and that after this, and after dilatation even, no time should be lost in attempting fecundation, and that certain positions of *the female in coitus* are preferable in some cases to others. Hypertrophy even of one lip, and conicity of the neck, congestion, inflammation, granulations, and fungosities are all obstacles to fecundation. This appears to be also the opinion of Kammerer, and of C. Mayer, of Berlin (1856), whom he cites in his paper.

In Dr. K.'s patients, retroversion (20), anteversion (18), anteflexion, (83), retroflexion (71), hypertrophy (65), small os (24), stricture of internal os (35), were the commonest lesions, and $\frac{7}{8}$ths of the whole number were affected with some form or other of uterine catarrh. If the views which I have herein presented, relative to the occasional and frequent destructiveness of the accompanying secretions to the spermatozoa be correct, some of the sterility in them may be fairly, I think, attributed to it, and some of the successes to the means employed for its removal. Corty thinks that very abundant leucorrhœal secretion may expel the semen from the uterine cavity, when it has once entered, and the very viscid, tenaceous mucus which plugs the os oppose its entrance.* Vaginal, he thinks less injurious than uterine mucus, the latter of which may have a very injurious influence upon the relatively very small quantity of sperm which enters the uterine cavity (1012). He adds:—In a great number of cases the great abundance of the leucorrhœa, and even its purulence, does not prevent fecundation.

Corty differs from Joulin as to the effect of a want of orgasm on the part of the female. He thinks it may occur without being felt or expressed, that it is capable of development and education, and hence fecundation seldom occurs until after some months (12, 18, 24 and 36) of married life; again, in some cases of sterility, coinciding with perfect general health of the genitals, and only attributable to absolute defect of orgasm, even in women very desirous of becoming mothers; or awaking, together with fecundity, after a lapse of years, and thence pursuing the natural course of its evolution; a new lover, or husband perhaps, determining the result. But it is equally certain that many entirely cold and passive women are extremely fecund. Sterility, on the other hand, may depend upon a totally opposite condition. Menorrhagia (a precocious abortus),

* Sometimes the semen is all instantly thrown off by the vagina, by too soon rising after coitus (Sims 12).

or inter-menstrual menstruation, by its tendency to reproduce itself when the ovum is recently fecundated, becomes an obstacle to gestation. The number of causes, single or allied, upon which sterility may depend, should certainly render us sober of promise to women in whom it is only relative, and affords hope of recovery; while the very frequent realization of that hope, under well directed treatment, should warrant, I think, a patient and continued effort on the part of both patient and physician.

Among the chief means of correcting the morbid conditions of the uterine mucous membrane upon which noxious secretions may depend, may be said to be cauterizations of the mucous membrane of the neck and cavity, and certain intra-uterine injections. The caustic most commonly in use is nitrate of silver, used externally to ulcerations and abrasions of the neck, and internally applied to the mucous membrane of the neck and cavity, to repress granulations and fungosities, to diminish hypersecretion, and by modifying the morbid condition of the glands which produce leucorrhœa, change the character of the secretion itself into one less injurious to the vitality of the spermatozoa. Upon this subject M. Corty says:—"The cauterization may be performed, after dilatation, with a camel's hair brush, but as this is an unenergetic method, the idea has arisen to introduce the solid nitrate and apply it directly over the surface."

Various porte-caustics have been devised for this purpose, intended to secure the caustic from being broken off within the cavity. "But" says M. C., "having myself met with the accident and satisfied myself not only of its harmlessness, but of its happy results, I fix a piece of solid nitr. of silver, of suitable length, in an ordinary platinum porte-nitrate with a long handle; place the patient in supination; introduce a wooden speculum; examine very gently with a sound the direction of the utero-cervical canal, and immediately after carry the crayon of nitr. silver even into the uterine cavity." This is easily said, but is it quite as easy to do? M. C. continues: "Instead of endeavoring to withdraw it intact, I use, on the contrary, all my endeavors to precipitate it, to break it off, which is not very easy to do, and I abandon it in this cavity (p. 265). The vagina is then tamponed with a cloth, wetted in a solution of salt in water, sustained by a second one, and the speculum withdrawn." "I can say," he adds, "that I do not know any more heroic means that this *little* operation, which it is not often necessary to repeat, in the treatment of obstinate leucorrhœa. I have not observed serious accidents to follow it. Once only I saw atrocious pains, not yielding to baths, antispasmodics, nor

narcotics." The neck having swelled, and the os being occluded, he incised it some hours afterwards, to facilitate the expulsion of the mucus and caustic itself. In all the other cases, the pains, "even very strong in a small number of women," have always yielded, however violent, to general and local antispasmodics, and to cool hip baths, with continuous vaginal irrigations, prolonged if necessary for several hours.

Those of my readers who may feel disposed to adopt this heroic and comparatively innocuous and "incomparable" little remedy, 619, will do well to consult M. Corty's Traité Prat., &c., Paris, 1866, p. 264 & 7, 618. It is to be employed only, be it remembered, when the passages are freely pervious, and there exists neither metritis, perimetritis, ovaritis, flexion, deviation, stricture, nor constriction of orfices.

M. Corty is not in favor of intra-uterine injections. He says that they are the most dangerous that can be employed, and has seen them instantly followed by very formidable accidents, to say nothing of the possibility of their passing through the tubes into the peritoneal cavity and giving rise to fatal peritonitis. M. C. uses no other fluid than pure water, and even then only where there exists a perfect facility for the escape of the injected fluids.

Dr. Jas. Kammerer, of this city, whose paper on Uterine Catarrh, reprinted from the *Am. Journ. of Obs.*, vol. ii., No. 2, August, 1869, I have just been favored with, is a warm advocate, on the other hand, in their behalf, and uses them constantly with safety and success. When catarrh is accompanied with true angular anteflexion, the posterior lip of the uterus must be incised by Emmet's operation, to straighten the canal and provide for a free exit for the catarrhal secretion; and extreme smallness of the external os requires a bilateral incision. The patient being placed in a recumbent position, a sound is introduced into the uterus, and the depth, capacity of the cavity, and the mobility of the organ accurately measured and ascertained. A cylindrical speculum is then introduced into the vagina. In order that an entire permeability of the cervico-uterine canal shall exist before the injection is attempted, Dr. K. is careful to dilate it by means of a series of sounds, four in number, of varying sizes, made of copper or German silver, of which exact figures are given on pp. 14 and 15 of the pamphlet alluded to. These are successively introduced through the speculum, until full dilatation of the canal is obtained; after which injection and escape of the injected liquids are easy and safe. After washing out the cavity of the uterus with a long-nozzled India-rubber bag syringe, the appropriate remedy, in

liquid form, is injected. These are chromic acid, Lugol's sol. of iodine, dilute or concentrated, and carbolic acid diluted, and also sulph. zinci, 10 grs. to the ounce. Of carbolic acid as an intra-uterine injection, I find no notice in the three French works I have consulted, Joulin, Corty, and Becquerel, and do not know with whom it originated.

Dr. Squibb, in a recent pamphlet, speaks of it as a mild local anæsthetic, useful in cystitis and leucorrhœa, and says that its use has often been favorably noticed in the foreign journals. Weak solutions of these dilute substances may be freely injected, raised to a certain temperature, not cold; but of the concentrated, 10 to 20 drops is the most that can be safely injected, the dilute being in ordinary cases the most prudent. Caution and skill are necessary; for Dr. K. himself allows (p. 23) that accidents may occur occasionally, notwithstanding the most careful observance of the rules he has laid down (p. 12). Dr. K. observes that he has often cured patients of their catarrh, as well as their sterile condition; but the peculiar morbid action of the secretions upon the spermatozoa, to which, in this paper, I have endeavored to direct attention, is not, so far as I have observed, alluded to. Dr. K. remarks that a new cause of sterility, hitherto little attended to, may be a destruction of ciliary uterine epithelium from the too powerful application of escharotics. The direction of the cilia, however, is from, and not toward the uterine cavity. There can be no doubt of the safety and efficacy of intra-uterine injections in Dr. K.'s experienced hands, and many cases are cured by it no doubt, which would resist any other mode of treatment. Dr. K. looks upon uterine catarrh as the most frequent cause of sterility in the female, having met with it in 342 cases out of 408, but without assigning any reason.

The womb in the present state of uterine therapeutics, must be looked upon as a meek and long-suffering organ, which endures with wonderful patience the rough handling, the burnings, slashings, pokings, and scrapings it receives at the hands of the gynæ-atrics. Still gentleness and caution are necessary; for it does not *always* submit to them without resistance, remonstrance, or recalcitration.

If these remarks shall conduce to a better study and understanding of the causes of sterility, and a more successful treatment for its removal, my object in writing them will be happily attained. The action of the vagino-uterine secretions upon the spermatozoa, will soon, I have no doubt, become an interesting and important specialty, and, I trust, will receive speedy and due attention.—*N. Y. Med. Record.*

ARTIFICIAL MINERAL WATERS—KISSINGEN.

BY R. ROTHER.

The numerous inquiries concerning methods for preparing artificial mineral waters, and the recent attempt of some chemist to furnish the necessary information, together with the growing demand for this luxury, all concur that a commentary upon this interesting subject would not be out of place. As a type of this class of preparations, Kissingen Water was chosen, since the apparent difficulty attending its production, and the high esteem in which it is held, but especially as constituting the topic of an anonymous chemist of the *Druggists' Circular*, make it a point of some interest to the writer.*

That contributor's elaborate and practically impossible process leads to the supposition of being a manufacturer's device, to divert attention from, and further monopolize, the industry of mineral waters; but the indescribable syntax, and worse chemistry, in fact, the total process is so awkwardly exhibited as to betray nothing of the necessary shrewdness usually so characteristic of such an enterprise. The flattering enconium upon the "celebrated Liebig" is cast into ridiculous contrast, when viewed in connection with the author's formula, which, as he states, is to represent Liebig's analysis of the Rakoczy Spring. If it was the design of the author, prompted by a generous impulse, to benefit unassuming enquirers, he should have considered that few can comprehend the abstruse chemical mathematics he lays before them, and that whoever could complete his dubious process would certainly possess the requisite ingenuity to devise a working formula from the original data of the analyst, without soliciting his intervention.

At the present time, the great bulk of artificial mineral waters consumed is furnished by a class of manufacturers who make its fabrication a specialty; each producer claiming for his preparation merits peculiar of its own, representing it as identical with the natural article, but manufactured by entirely original methods, only known to themselves. The retail vender thus obtains his mineral waters in concentrated solution, which, according to manufacturer's direction, is mixed with more water, and the dilute solution impregnated with carbonic acid, under pressure. This is, evidently, a great convenience to those who are not aware of a more economical, but, above all,

* *Druggists' Circular*, July, 1869.

reliable source. What guarantee exists for the correctness of the manufacturer's statement, whose selfishness prompts him to conceal his process? Does the confiding retailer know that the manufacturer's solutions, No. 1 and No. 2, contain *all* the necessary constituents of the mineral water they are to represent? Certainly not, unless he has verified it by analysis, quantitatively as well as qualitatively, which would be an ungrateful task at best, since he has an unquestionable guarantee in the original statement of the analyst who grants it for his love of science alone.

It seems that Liebig's analysis is now usually adopted as the basis for the various methods of preparing Kissingen Water, which, as calculated for the wine pint, or 16 fluid ounces, is stated to contain of solid anhydrous matter and ammonia, as follows:—

Chloride Potassium,	2.2034 grains.
Chloride Sodium,	44.7133 "
Bromide Sodium,	.644 "
Nitrate Soda,	.0715 "
Chloride Lithium,	.1537 "
Chloride Magnesium,	2.3331 "
Sulphate Magnesia,	4.5088 "
Carbonate Magnesia,	.1309 "
Sulphate Lime,	2.9904 "
Phosphate Lime,	.0431 "
Carbonate Lime,	8.1482 "
Carbonate Iron,	.2425 "
Silicic Acid,	.0991 "
Ammonia,	.007 "

This analysis differs materially from those of some other chemists who have also examined this water, not so much in the total amount of its constituents as in regard to their chemical character and relative quantity; but this is, in some measure, due to the remarkable fluctuations that, from time to time, occur in the composition of some of the mineral springs.

Kastner's analysis is expressed in quantities representing a Bavarian pound, of 16 ounces, or 7680 grains, equal to 560 grammes. The gramme being 15.434 grains Troy, this, by calculation, would then indicate the amount of mineral matter in 8643.04 Troy grains. The slight deviation in the specific gravity of this water above the unit of comparison being practically inappreciable is here left out of consideration. The ratio existing between this bulk (8643.04 grains Troy) and the wine pint (7291.2 grains), when the former is unity, is .84359;

this number will then be the coëfficient of the formula when reducing Kastner's result to the wine pint standard.

The presence of an important ingredient, the chloride of lithium, existing even in proportionably large quantity, as found by Liebig and Bauer, was entirely overlooked by Kastner. Liebig also finds a portion of nitrogen in the condition of nitric acid as nitrate of soda, while Kastner found it only as ammonia. The latter chemist also finds much greater quantities of phosphoric acid and protocarbonate of iron, together with alumnia in abundance, but his amount of silicic acid is comparatively enormous. The bromine agrees with, and the chloride of potassium is but half, that of Liebig, yet the remaining and most important components agree within practical limits.

The discrepancies in the analysis of this water evidently occur, then, only among the rarer and least important elements of its composition. The various analysis may, therefore, be considered as identical, when referred to their characteristic bearing upon the main result. This is verefied by the circumstance that Kissingen, made by Kastner's formula, is of the first quality; but since its iron, phosphoric acid, and especially silicic acid, are in excessively large proportion, and the lithia wanting, Liebig's analysis gains the preference. However, this formula, when followed, as indicated by its combination of the elements, yields a result far inferior to that of Kastner.

This is based upon the remarkable fact made apparent by Kastner's distribution of the acids and bases, that sulphate of soda, when not added as such, is not generated in the process, and, consequently, an unpalatable product is the result.

The presence of alumina also exercises a curious influence by concealing the metallic flavor of the iron compound, which, otherwise, is disagreeably perceptible, as with Liebig's formula, where alumina is practically absent.

In offering a working formula for artificial Kissingen Water, the objects in view are simplicity in practice and accuracy in result; a process which, in the hands of even the moderately skilled, shall offer no obstacles to ready execution, and whose constituents shall be within the reach of every pharmaceutist. These are all points not observed by our Brooklyn contemporary, who, very probably, never tested his own process, and, taking his remarks at par, it is very questionable whether he ever tried any other.

Liebig's formula presents only chloride of sodium and nitrate of soda that enter the solution as such; the remainder are

brought into it indirectly, resulting from double decompositions between other compounds. This is also true in regard to a portion of the chloride of sodium. . Thus, in the working formula, 100 pints are taken as a convenient quantity, that being the capacity of a large fountain. We now assume that the 13.09 grains of protocarbonate of magnesia ($MgO\ CO_2$) (Liebig's number 100 times) reacts with 21.19 grains of sulphate lime (CaO, SO_3), forming 15.58 grains of carbonate of lime (CaO, CO_2), and 18.7 grains of sulphate of magnesia (MgO, SO_3). This decreases the sulphate of lime to 277.85 grains, and increases the carbonate to 830.4 grains, and the sulphate of magnesia to 469.58 grains, while the carbonate of magnesia disappears. This is merely a consolidation to simplify the formula.

For reasons as above stated, Liebig's formula is infringed upon and Kastner's 18 grains of alumina inserted. This determines another complex reaction; 18 grains of alumina are represented by 166.27 of potassa alum. The latter, when decomposed by 78.18 grains of chloride of calcium, and 118.68 grains crystallized carbonate of soda, in succession, yields the alumina, together with 26.08 grains of chloride of potassium, and 61.33 grains of chloride of sodium.

The ammonia is generated as carbonate from 2.2 grains of chloride of ammonium and 5.88 grains of carbonate of soda, 2.41 grains of chloride of sodium also being produced. The employment of bicarbonate is not advisable. It is at best rather indefinite, and not an article of commerce unless prepared from the sesquicarbonate, by exposure to the air. Moreover, it cannot be kept in concentrated solution with the other alkaline salts without incurring loss.

Protocarbonate of iron is obtained from protochloride (first formed by double decomposition between 58.12 grains of protosulphate of iron (crystallized), and 23.25 grains of chloride calcium) and 59.79 grains of carbonate of soda, giving rise to 24.46 grains chloride of sodium.

Phosphate of lime ($3\ CaO, PO_5$), together with 4.88 grains of chloride of sodium is produced from 9.96 grains of crystallized phosphate of soda and 4.63 grains of chloride calcium. If the compound $3\ CaO, PO_5$ is formed, one equivalent of chlorhydric acid must be simultaneously set free. This would instantly react upon the carbonated bases, with the formation of an equivalent of chloride which is not accounted for in surplus of carbonates.

Chloride of lithium is formed when 13.38 grains of carbonate

of lithia and 20.07 grains of chloride of calcium react upon each other.

Chloride of lithium is very delinquent, and, hence, indefinite; it is, also, of unfrequent occurrence in commerce, whilst the carbonate is definite, stable, and everywhere obtainable.

Bromide of sodium is supposed to be generated along with 46.65 grains of chloride of potassium, when 74.47 grains of bromide of potassium and 36.58 grains of chloride of sodium are brought in contact, in solution. Bromide of sodium is rarely found in commerce, and the cubical anhydrous never, as these crystals only form at a very low temperature. The bromide of sodium crystallizes, at ordinary temperature, in oblique, rhombic prisms, containing four equivalents of water.

The introduction of the silicic acid offers some difficulty, but the commercial solution of silicate of soda having, usually, a uniform specific gravity is sufficiently accurate, examples examined ranging from 1.384 to 1.388. 104 grains of a solution of the latter specific gravity yielded, after repeated evaporation in contact with chlorhydric acid, 25 grains of silicic acid (SiO_3). The residue, by evaporating the filtrate, weighed, after fusion, 21 grains. This 21 grains of chloride of sodium corresponds with 11.128 grains of anhydrous soda (NaO). The solution then contains 36.128 grains of anhydrous silicate of soda, equal to 34.74 per cent.

To determine the formula of this silicate, we have the formula of soda NaO=31, and of silicic acid SiO_3=45. The quantity of oxide of sodium divided by its equivalent is 11.128÷31=.359; likewise for silicic acid we have 25÷45=.556. The composition is, therefore, .359 equivalents of NaO to .556 equivalents of SiO_3 or .359 : .556 :: 2 (NaO) : 3.1 (SiO_3). That is 2 NaO, 3 SiO_3. Hence sesquisilicate of soda.

14.46 grains of the anhydrous, or 41.31 grains of the solution of silicate of soda accord with 21 grains of crystalized carbonate of soda.

Sesquibasic silicate of soda (3 NaO, 2 SiO_3) is not found in commerce. It is crystalline and indefinite, containing variable quantities of water.

Of the 220.34 grains of chloride of potassium, 72.73 grains have previously been accounted for. The remaining 147.61 grains are supposed to be produced from 172.34 grains of sulphate of potassa and an equivalent quantity of chloride of magnesium.

However abundant chloride of potassium may be in some localities, there is, as yet, no universal demand for it, and,

consequently, it is rarely seen. It is also quite deliquescent.

Carbonate of lime is introduced by means of 921.74 grains of chloride of calcium, and 237.94 grains of crystallized carbonate of soda, 971.57 grains of chloride of sodium resulting as a by-product.

Sulphate of lime is furnished by the action of 226.78 grains of chloride of calcium upon 657.85 grains of crystallized sulphate of soda, while 239.03 grains of chloride of sodium are formed.

The exhibition of the magnesian compounds present the most difficult feature, forming, as is apparent, a complexity of the most intricate kind. This, therefore, determines a process by appearance equally comples; but the obstacles are overcome with success, by a subdivision into several phases, independent of each other. 469.58 grains of anhydrous sulphate of magnesia are formed, by assuming that the chloride of magnesium, first obtained by decomposing 962.64 grains of crystallized sulphate of magnesia with 434.36 grains of chloride of calcium, reacts with 172.34 grains of sulphate of potassa and 941.5 grains of crystallized sulphate of soda, giving, as collateral product, 147.61 grains of chloride of potassium and 342.1 grains of chloride of sodium. 233.31 grains of chloride of magnesium results by the mutual decomposition of 604.15 grains of crystallized sulphate of magnesia and 272.61 grains of chloride calcium.

Chloride of magnesium, with 6 equivalents of water, is obtained with difficulty as a very deliquescent crystalline mass, when the solution is evaporated at a moderate heat. Its use is, therefore, practically out of question. The fused anhydrous chloride, were it a commercial article, would, no doubt, answer the purpose, providing its cost was no objection. This is prepared, according to Liebig, by fusing in a platinum crucible the residue left by evaporating a solution containing chloride of ammonium, until the latter is expelled, and the mass in tranquil fusion.

Fused chloride of calcium is used in this process, as the crystalline chloride, with 6 equivalents of water, cannot be readily obtained or employed, on account of its extreme tendency to deliquesce.

From the previous preliminary explanations it will be seen that the carbonate of lime, of the lithia reaction, together with the sulphate of lime that results in various double decompositions, with the exception of that generated by a portion of the sulphate of soda, does not enter the mineral water. It is also

apparent that the total amount of sulphuric acid is introduced in the condition of sulphates of potassa and soda, 172.34 grains of the former, and 1599.35 grains of the latter. All the magnesium as chloride, obtained from 1566.79 grains of crystallized sulphate of magnesia, all the calcium as chloride, and all the carbonic acid, in combination to protocarbonates, as 2538.29 grains of crystallized carbonate of soda.

The process is now effected by first bringing the entire constituents into simple concentrated solution in two separate parts, designated as "earthy solution," or No. 1, and "alkaline solution, or No. 2. Process No 1 is accomplished in two sections, "*A*" and "*B*," and the course of proceeding takes place as indicated in the following condensed formula:—

EARTHY SOLUTION—(No. 1.)

"*A*."

Chloride of Calcium (fused), -	1981.62 grains.
Carbonate of Lithia, - - -	13.38 "
Water, sufficient.	

"*B*."

Crystallized Sulphate of Magnesia, -	1566.79 grains.
" Potassa Alum, - -	166.27 "
" Protosulphate of Iron, -	58.12 "
Chloride of Ammonium, - -	2.2 "

ALKALINE SOLUTION—(No. 2.)

Chloride of Sodium, - - -	2862.13 grains.
Crystallized Sulphate of Soda, -	1599.35 "
" Carbonate of Soda, -	2538.29 "
Nitrate of Soda, - - -	7.15 "
Crystallized Phosphate of Soda, -	9.69 "
Solution of Silicate of Soda, sp. gr. 1.388 (containing 14.46 grains, 2 NaO, 3 SiO_3), - - - -	41.31 "
Sulphate of Potassa, - - -	172.34 "
Bromide of Potassium, - - -	74.47 "
Water, sufficient.	

Fractions of a grain above ½ may be considered 1, and less than ½ may be rejected.

Dissolve the chloride of calcium in 12 fluid ounces of water, by trituration, in a mortar, or in a porcelain dish, with heat; to the solution add the carbonate of lithia, and agitate the mixture, then pour the whole into a wide-mouthed bottle, of the

capacity of two pints. Dissolve in another vessell, or in the first one, after washing the ingredients of "*B*," namely: sulphate of magnesia, potassa alum, protosulphate of iron, and chloride of ammonium, with one pint of water, and add this to solution "*A*," at once, and in one quantity, the resulting mixture, when the operation is properly managed, will remain clear a few moments, then, gradually, the sulphate of lime separates as a crystalline powder (not amorphous); after five or ten minutes, the whole is thrown on a muslin strainer, and the liquid pressed out with some considerable force; the hard crystalline residue of sulphate of lime, with some carbonate, is then moistened with six or eight fluid ounces of water, and again wrung out. The nearly clear solution thus obtained will measure about two pints, and may be filtered, if desirable, which, however, is altogether superfluous. This constitutes solution No. 1.

The chloride of sodium (pure and perfectly dry), is now dissolved in 1½ pints of water, with frequent agitation. The sulphates of potassa and soda, and the carbonate of soda (dry, but not effloresced), are together dissolved in somewhat less than 1½ pints of water, with the aid of heat; to this is added the chloride of sodium solution, and then the remaining salts, first dissolved in a few fluid ounces of water- This furnishes solution No. 2, measuring about 3 pints, which must be filtered.

Solutions No. 1 and No. 2, when added in succession to 12 gallons of water in a fountain, and impregnated with carbonic acid, under a desirable pressure, yield artificial Kissingen Water of unsurpassed quality. These results are based upon the writer's own experience, who has, during the past season, frequently manufactured this mineral water by the above process, in quantities of ten fountains at a time.

The writer, therefore, considers his duty done; let subsequent operators now do theirs.—*The Chicago Pharmacist.*

Book Notices.

The Physical Life of Woman: Advice to Maiden, Wife, and Mother. By Geo. H. Napheys, A.M., M.D.; Author of Compendium of Modern Therapeutics, etc. Philadelphia: Geo. McLean, 719 Sansom Street. 1869.

This is a neatly bound volume of 250 pages, written in a

plain and pleasing style, well calculated both to please and instruct. There is nothing of the *sensational* or imaginative character in it. On the contrary, its teachings are in strict accordance with scientific facts and good sense. Though designed specially for females, yet a careful perusal would be productive of much benefit to both sexes. Price $1.50.

A Course of Practical Chemistry, Arranged for the Use of Medical Students. By WILLIAM ODLING, M.B., F.R.S.; Fellow of Royal College of Physicians; Lecturer on Chemistry at St. Bartholomew's Hospital. With Illustrations. From the Fourth and Revised London Edition. Philadelphia: HENRY C. LEA. 1869. Pp 261. Price $2.

This is an excellent manual of practical chemistry, and is particularly well adapted to the wants of the medical student, who should regard a good knowledge of practical or analytical chemistry as a necessary part of his professional education. For sale by S. C. Griggs & Co., Chicago.

Reports on the Diseases of Cattle in the United States, made to the Commissioner of Agriculture, with Accompanying Documents. Washington, 1869.

We have received this volume direct from the Department of Agriculture, at Washington. It is an octavo volume of 190 pages, well bound; and contains a full and interesting report on the lung plague, or Texas cattle disease, giving its history, mode of spread, nature, and management, by Professor John Gamgee, M.D. The same author has two other reports; one on the "Ill Effects of Smutty Corn on Cattle," and the other "On the Splenic or Periodic Fever of Cattle." These papers occupy nearly 160 pages of the volume. The remainder is occupied by "General Remarks on the Cattle Diseases Reported on;" "Remarks on the Exodes Bovis," by C. N. Riley, St. Louis, Mo.; on "The Fungi of Texas," by H. W. Ravenal, of South Carolina; and a "Report of the Results of Examinations of the Fluids of Diseased Cattle, with Reference to the Presence of Cryptogamic Growths," by Drs. Billings and

Curtis, of the United States Army. All these are topics of very great importance, and are treated by men in the highest degree qualified for the work.

It is greatly to be regretted that the Commissioner of Agriculture was obliged to omit numerous and highly important illustrations for want of funds. We trust that among the first acts of the coming Congress will be an appropriation sufficient to meet the expenses of a new edition, with all the illustrations which the importance of the subjects treated require.

The Mechanism of Dislocation and Fracture of the Hip. With the Reduction of the Dislocations by the Flexion Method. By HENRY J. BIGELOW, M.D., Prof. Surgery and of Clini cal Surgery in the Medical School of Harvard University; Surgeon of the Massachusetts General Hospital, etc., etc. With illustrations. Philadelphia: HENRY C. LEA. 1869. Pp 150. For sale by W. B. KEEN & COOKE, Chicago.

This is an elegantly published volume, containing a complete presentation of the present state of surgical knowledge, in regard to dislocations and fractures of the hip, with accurate illustrations. It is a valuable addition to the surgical literature of our profession.

Physicians' Visiting List for 1870—Nineteenth year of its Publication. Philadelphia: LINDSAY & BLAKISTON. Sold by all Booksellers and Druggists.

This pioneer still holds its reputation as one of the most convenient pocket visiting lists and account books that the physician can use. The copies for 1870 are issued, and in the hands of booksellers in good time.

Transactions of the Illinois State Medical Society; Nineteenth Anniversary Meeting, held in Chicago, May 18th, 19th, 20th, 1869.

This is a well printed volume, in paper cover, 160 pages. Besides the record of proceedings, it contains ten reports and papers of more or less interest and value, and a list of names of

members of the Society. Secretary, T. D. Fitch, M.D., Chicago.

Minutes of the First Annual Meeting of the Nebraska State Medical Society, held at Nebraska City, June 1st, 2d, 1869.

This is a very neatly printed pamphlet of 24 pages, containing the record of proceedings, and brief reports from the Society, the Publication Committee, the section on surgery, the section on obstetrics, together with a copy of the constitution and by-laws of the Society. It indicates a good spirit in the profession of this new State. Secretary, S. D. Mercer, M.D., of Omaha.

Editorial.

MEDICAL COLLEGES.—The two regular medical colleges in this city are again in active operation. The Rush Medical College opened its annual session on the last Wednesday in September. The introductory lecture was delivered by Prof. E. L. Holmes, who had recently been appointed to the newly created Chair of Ophthalmology.

This lecture was well written, and his advice to the students well received. With the exception of adding one or two professorships, on special departments, this school still adheres closely to the old arrangement of short terms, single classes, and heterogeneous teaching.

The Chicago Medical College, Medical Department of North-Western University, opened its annual session for 1866–70, on the first Monday in October. The general introductory lecture was given by Prof. W. H. Boyd, recently appointed to the Chair of Descriptive Anatomy. The address was highly appropriate, and was listened to with marked attention. It will be found at length in another part of this number of the EXAMINER. This school, although requiring three courses of lectures, of six months each, a consecutive order of studies, annual exami-

nations, and some preliminary education, attracts an excellent class of students, and is practically demonstrating the feasibility of all the improvements in our system of medical education, recommended by the Convention of 1866, at Cincinnati, and so long demanded by the profession. No city in our country affords better advantages for the study of medicine in all its departments, didactically and clinically, than Chicago.

ITEMS FROM THE GAZETTE DE HOSPATEAUX, TRANSLATED BY F. H. DAVIS.—*Gazette of September 4th.* * * * We are happy to hear that the cholera has completely disappeared from the Province of Bengale.

* * The Typhus has been raging terribly for the last three months in Erzerum. One of our colleagues, Dr. Delort, Sanitary Physician, appointed by the French Government, has died a victim to his admirable devotion.

Gazette, August 24th. The *Bulletin* of the Prefecture gave a mortality of 75 cases, from affections of the digestive organs, in Paris, during the last week; diarrhœa 61; cholera and dysentery 5. The number of cases has apparently diminished, this week the *Bulletin* not indicating more than 4 deaths by cholera and 48 by diarrhœa.

* * The cholera, which has been prevailing with great violence in the western part of Africa, especially in Gambie, has completely depopulated that English colony.

* * The total number of victims at Sainte-Marie de Bathurst is estimated at 1323, from a population of 4000 to 4500, composed almost entirely of negroes and mulattoes; of the 25 whites who formed the little European colony, *one* only has been attacked by the disease, and he has fortunately been saved.

* * According to the last advices, the epidemic of cholera, which had been reported as prevailing in India, was much diminished, and apparently disappearing.

* * According to the *Gazette Medica de Bohia*, the number of consumptives in Bohia has been increasing for some time at a fearful rate. The journal attributes this increase to the

imigration of foreign races, especialy the Germans, who have brought into Brazil the habits of *intemperance.*

When Brazil was colonized by the Portuguese alone, a race noted for their sobriety, tuberculosis was no more prevalent there than in Portugal. To-day the proportion is very different.

In mentioning the meeting of the Faculty of Medicine of Paris, held August 14th, the *Gazette* says:—"The standard of the students is not raising. This year, again, the Faculty of the three divisions of the Ecole pratique have not found a single student who merited a reward, or even a mention.

All the interest of the meeting was in the eulogy on Prof. Trousseau. M. Laséque has obtained the most legitimate success in committing to speech these remembrances. In listening, one could almost imagine that he saw again that grand and noble figure of a beloved master; and when he portrayed the last sufferings and death, all shared in the emotion which nearly suppressed his utterance with sobs.

"Oh no! it is not the students of the college who have changed. Restore to them their Trousseau, their Vulpean, and you will see that she has the same culture from them."

PREVENTION OF THE SPREAD OF CHOLERA.—The French Government has sent Dr. Proust on an important mission to Persia. He is to explore the shores of the Caspean Sea, from Austrakan to Recht, with the view of ascertaining the local conditions which have caused the cholera always to follow that course, in extending from Persia into Europe; to study on the spot the measures taken by the Russian Government to prevent a fresh invasion of the disease, and to point out the means of more sure prevention.

The plan laid down for him is as follows:—After visiting St. Petersburg, and explaining the object of his mission, and being, perhaps, joined by a Russian physician, he will proceed to Austrakan, and visit the Russian quarantine establishments at that place. He will then explore the coast from Astrakan to Recht, and will thence proceed to Teheran. Having arrived in that city, he will impress on the Persian Government the necessity of carrying out the sanitary organization projected two years

ago, especially the regular performance of the duties of the Council of Health, which was formed at that time, but which has remained almost a dead letter. One of the most important objects to be effected will be to put a stop, especially during the prevalence of cholera, to the carrying of dead bodies in a state of putrefaction with the pilgrims' caravans. This mission of M. Proust is highly important and well-timed; especially as it was reported in the middle of last month that cholera was prevailing at Teheran, and that there was some danger of its spreading along the shores of the Caspian Sea into Europe.—*British Medical Journal.*

FOREIGN GLEANINGS.

M. Chairou has presented to the Academy of Medicine of Paris a memoir, having for its title "Clinical Studies upon the Nature and Coördination of Hysterical Phenomena."

The author is the Physician to the Asylum of Vésinet, and his conclusions, based upon his observations of the convalescents of that establishment, are expressed in the following propositions:

1st. Whenever, in a female, there is compression or inflammation of one or both ovaries, there is almost always a reflex sympathetic paralysis of the epiglottis and of all the organs constituting the pharynx.

2d. Whenever these two phenomena are found united in the same person, there is the beginning of a condition which the author calls the *hysterical cahexia.*

3d. The attack of hysteria is only the consequence of this reflex paralysis. The epiglottis fallen back over the superior orifice of the larynx cannot be raised by its muscular attachments and hence the attack of suffocation, the convulsive movements of the extremities and the general spasms constituting the hysterical convulsions.

4th. The asphyxia resulting from these repeated convulsions results necessarily in a perversion of vitality; and, as a consequence, those sensorial and anæsthetic disturbances almost always observed in hysterical patients.

5th. The treatment ought consequently to be addressed directly to the functional disorders of the ovaries; especially ought it to be local, to determine the resolution of the ovaries, the principal, if not the only, cause of the difficulty.

It is well-known that M. Auzias Turenne is an earnest student of the literature as well as the pathology and therapeutics of syphilis. In a note presented to the Academy of Medicine, at its meeting of September 7th, he expresses the following conclusions as to the origin of this disease in Europe. It is certain, according to M. Turenne, that syphilis, after having appeared in Spain, became epidemic first at Naples, in 1495, while that city was besieged by the French and defended by the Spaniards and Italians. The author discusses the different opinions as to its origin in Europe, and adopts that so well sustained by Astruc, and which regards it as an importation from America. In support of this opinion, he adduces three kinds of proof—historical, nosological, and philological. The historical proofs consist of the testimony of Oviédo, of Theret, and the circumstantial details furnished by Roderic Dias. The disease is followed chronologically and geographically from the West Indies through Spain to Italy, and thence to France, and its subsequent dispersion throughout the world.

The nosological proofs consist, 1st, in the well-known generalization and benignity of the disease in the West Indies, at the time of their discovery; 2d, in its march through Europe; at first insidious, then active and terrible, and, subsequently, gradually diminishing in its severity.

The philological proofs are, 1st, all the names of the disease and its symptoms are found in the Caribian dictionary and in the language of the Indians, to the exclusion of those of diseases which have been introduced into America by Europeans. 2d. the modern names of the disease are borrowed from the names of the people from whom each nation supposes it to have been derived. The Spanish called it the Indian Disease, the French, the Spanish Disease. The author, in accordance with his theories, already enunciated, concludes that the disease is of American origin, that its traditional treatment by mercury

should be abandoned, and that syphilis itself is its proper remedy and preventive.

The discussion in the French Academy upon vaccination still rages, with all the virulence of genuine variola. We shall give the conclusions, if they are ever reached.

Disinfectant for Purposes of Dissection.—All the bodies destined for dissection in the Ecole Pratique last winter were injected with a mixture of three litres of glycerine, and one quart of phenic acid; and the disinfection was as complete as could be desired.—*N. Y. Med. Record.*

A New Method of Preserving Pathological Specimens.—Dr. DeCamp, of Grand Rapids, Mich. (*Transactions of the Mich. State Med. Society*), gives us the following formula for preserving anatomical and pathological specimens:—

℞. Syrupus simp. (saturated strength); aqua, āā, oj.; alcohol, 95 per cent. f ℥iv; acid, carbolic, ℥j. M.

The proportions of these have to be varied according to the transparency desired in the particular specimen being prepared. For most articles, the above formula is the nearest correct. The specimen requires to have the blood removed by maceration (as it is soluble in this solution), or it will discolor the fluid.

Treatment of Rheumatic Fever.—Henry William Fuller, M.D., in a clinical lecture "On the Treatment of Rheumatic Fever" (*St. George's Hospital Reports*), gives us his treatment, and the subjoined statistics. From January 1st, 1845, to May 1st, 1848, 246 cases of acute rheumatism were admitted into St. George's Hospital, and they remained in the institution on the average 35 days; of these 246 patients, 119, or 1 in every 2.06, had some form of recent affection of the heart; and 1 in every 6.3 had pericarditis. During the six years ending December 31st, 1850, 17 cases, or about 1 out of every 27 cases of rheumatic fever admitted into the hospital terminated fatally. Since 1852, 417 cases of rheumatic fever have been treated by the alkaline treatment, and the disease did not prove fatal in a single instance. The alkalies should be given in such quantity that alkalinity of the urine will be induced within 24 to 36 hours. Dr. Fuller prefers the following prescription:—R. Potassæ acetatis, ℥ss; sodæ carbonatis, ℥iss; aquæ, f ℥iij.; rendered effervescent by the addition of succus limonis, f ℥j. This to be taken at a draught, and repeated every fourth hour.—*N. Y. Med. Record.*

Mortality for the Month of September, 1869:—

CAUSES OF DEATH,

Accident, drowned	5	Chorea	1	Kidneys, chronic inflammation of	1
" by fall	3	Convulsions	73	Laryngismus stridulus	1
" fracture of skull,	1	" puerperal	2	Laryngitis	3
" run over by wagon	3	Consumption	30	Liver, cirrhosis of	1
" thrown from buggy	1	" and dysentery	2	" cancer of	1
" poisoning	1	Croup	8	" tubercular abscess of	1
" scalded	1	" diphtheretic	3	Lungs, congestion of	2
" railroad	6	" membranous	2	Manslaughter	3
" fall from window	1	Cyanch trachealis	1	Mouth, canker sore	2
" peritonitis, result of injury	1	Debility	2	Measles	2
Abscess, process, and dysentery	1	" general	3	" and cholera infantum	1
" lumbar	1	Delirium tremens	2	Meningitis	5
Anus, imperforate	1	Diabitis	1	" cerebro-spinal,	1
Albuminuria and scarlet fever	1	Diarrhœa	47	" spinal	2
Apoplexy	1	" and convulsions	6	" tubercular	2
" and intemperance	1	" and teething	3	Old age	7
Aneurism of femoral artery	1	" chronic	19	" and diarrhœa	1
Births, premature	15	Diphtheria	24	Osophagus, stricture of	1
" tedious	1	Dropsy	9	Œdema pulmonum	2
" stillborn	37	Dysentery	38	Paralysis	2
Bladder, paralysis of, and debility	1	" chronic	4	" general	1
Bowels, inflammation,	12	" typhoid	4	Pericarditis	2
" obstruction,	2	Emphysema pulmonum	1	Peritonitis	3
Brain, congestion of	8	Encephalitis	2	Phrenitis	2
" compression of,	1	Entero-colitis	5	Pneumonia	10
" and mesenterica glands, disease of,	1	" chronic	2	" broncho	1
" inflammation	5	Epilepsy and intemperance	1	" typhoid	1
" softening of	5	Erysipelas	1	Purpuria hemorrhagia	1
Bronchitis	2	" and diarrhœa	1	Pyæmia	2
" and asthma	1	Fever, congestive	2	Rheumatism	1
" chronic	1	" puerperal	4	Scrofula	3
" capillary	2	" remittent	1	Small-pox	3
Cancer	1	" scarlet	28	Stomatitis, mercurial	1
" of liver and spleen	1	" " malignant,	2	Suicide	4
" of thigh	1	" typhoid	22	Syphilis, congenital	1
Childbirth	1	" " neuralgia	1	Tabes mesenterica,	43
Cholera infantum	156	Hæmoptysis	1	Teething	30
" " and teething	2	Heart, disease of	3	" and convulsions,	2
" morbus	4	" hypertrophy of	1	Throat, ulcerated sore,	1
" " and gastritis	1	" organic disease of	1	Trismus narcentium	2
Chorea	1	" paralysis of	1	Uterus, cancer of	2
Convulsions	73	" valvular disease	2	Uræmia poisoning following puerperal convulsions	1
" puerperal	2	Hepatitis	1	Vitality, deficient	1
Consumption	30	Hydrothorax	1	Whooping-cough	6
" and dysentery	2	Hydrocephalus	17	" and cholera morbus	1
Croup	8	" acute	5	Unknown	3
" diphtheretic	3	" chronic	2		
" membranous	2	Inanition	13	Total	814
Cyanch trachealis	1	Intussusception	1		
Debility	2	Ileo colitis	1		
" general	3	Ileus and cancer of stomach	1		
Delirium tremens	2	Jaundice	1		
Diabitis	1	Kidneys, Bright's dis.	2		

COMPARISON.

Deaths in Sept., 1869,	814	Deaths in Sept., 1868,	741
Increase,	73		
Deaths in Aug., 1869,	1071	Decrease,	257

AGES.

Under 1	320	20 to 30	36	70 to 80	11
1 to 3	231	30 to 40	36	80 to 90	6
3 to 5	48	40 to 50	27	90 to 100	2
5 to 10	36	50 to 60	30		
10 to 20	18	60 to 70	13	Total,	814

Males,	426	Females,	388	Total,	814
Single,	702	Married	112	Total,	814
White,	801	Colored,	13	Total,	814

NATIVITY.

Austria	1	England,	8	Newfoundland,	1
Atlantic Ocean	1	France,	1	Norway,	8
Bohemia,	6	Germany,	69	Sweden,	32
Canada,	5	Italy	1	Scotland,	2
Chicago, Native,	139	Holland	2	Switzerland	2
Chicago, Foreign,	387	Isle of Man,	1	Unknown,	7
U. S., other parts,	88	Ireland,	49		
Denmark,	2	New Brunswick,	2	Total,	814

MORTALITY BY WARDS FOR THE MONTH.

Wards.	Mortality.	Pop. in 1868.	One death in
1	3	9,094	3031¼
2	20	13,074	653¾
3	29	15,076	520
4	35	17,796	508½
5	63	16,033	254½
6	57	13,083	229½
7	83	25,492	307⅛
8	58	15,813	272½
9	51	19,297	378⅓
10	12	12,925	1077
11	30	14,340	478
12	117	17,485	149½
13	35	11,164	319
14	58	14,839	255 5-6
15	57	21,078	369¾
16	18	15,465	859

Mortality.	
Accidents,	23
Bridewell	1
County Hospital,	24
Home for Friendless,	2
Hospital Alexian Brothers,	1
Immigrants,	23
Mercy Hospital,	3
Marine Hospital,	2
Manslaughter,	3
St. Joseph Orphan Asylum,	2
Suicide,	4
Total,	814

NEW TREATMENT FOR TAPEWORM.—Dr. Surtel (Gaz. Méd. de Paris) has tried the following method:—He gives in one dose two-thirds of an ounce of ether, followed by an ounce of castor oil two hours afterwards. The worm is thus discharged entire, and no pain is caused by the treatment.

THE SULPHITES AS ANTHELMINTICS.—Dr. Roe, of Dublin, has satisfied himself of the efficacy of the sulphites, especially of soda, in cases of tape-worm. He gives children ten grains of bisulphite of soda three times daily, preceding the treatment by an alkali, and following it by a purgative.

HYPODERMIC INJECTION OF CAFFEINE IN POISONING BY MORPHIA.—Dr. Senneker communicates to the *St. Louis Med. Journal* a case of this kink, where the patient was in a dangerous condition. He injected a grain of pure caffeine hypodermically; and after having injected three grains, in ten minutes the patient quickly recovered.—*N. Y. Med. Record.*

MALE FERN IN TÆNIA.—Prof. Christison (Boston *Medical & Surgical Journal*) declares the ethereal extract of male fern better than kousso or any other remedy for tænia. He has never failed with it. He gives it in doses of from 18 to 24 grains in syrup or emulsion; and repeats it at the end of a month or six weeks, by way of making sure of his work. The worm never comes away alive.—*N. Y. Med. Record.*

DR. JAMES MCNAUGHTON has been elected President, and Dr. James H. Armesby, Professor of Surgery, by the faculty of the Albany Medical College, in place of Dr. March, deceased. —*Ibid.*

INDIANA MEDICAL COLLEGE,

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THOS. B. HARVEY, M.D., TREAS., Prof. Diseases of Women & Children.
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FEES:

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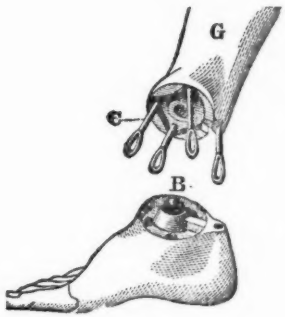

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